Océ User Manual

Océ Arizona 400 Series GT

Océ Arizona 440, 460, 480 GT/XT, Revision A

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Chapter 1
Introduction

Preface

Introduction

This manual provides the operator with information about the following Océ 400 Series UV flatbed inkjet printers:

- Océ Arizona® 440 GT/XT
- Océ Arizona® 460 GT/XT
- Océ Arizona® 480 GT/XT

The operational features of these printer models are similar. The XT models have a larger table than the GT models. The main functional differences between models are based on the number of printheads and therefore the available channels for ink and varnish. The table below provides an indication of the possible ink and varnish output that each model is capable of supporting.

Océ Arizona 440 GT/XT	4 channel	CMYK
Océ Arizona 460 GT/XT	6 channel	CMYKWW CMYKWV
Océ Arizona 480 GT/XT	8 channel	CCMMYKWW CCMMYKWV

This manual uses the terms Océ Arizona 400 Series GT or Océ Arizona 400 Series XT to refer to these printers generally. The specific model printer name will depend on the configuration selected. Also, the 4 channel printer can be upgraded to 6, and the 6 channel printer can be upgraded to 8 channels. This manual orients you to the many features and procedures that allow you to print professional quality images on various media with these printers.

Multi-Language Support

The printer's user interface software supports multiple languages. To select your preferred language and other setup information, refer to the Settings Module in Chapter 4.

This manual is also available in other languages. Printers are shipped with a printed copy of the US English version. You can download a PDF file of the manual in all of the languages that we support from the Customer Support web site: http://dgs.oce.com/

Supported languages:

- English
- Dutch

- German
- French
- Spanish
- Italian
- Japanese
- Chinese

Océ DGS on the Internet

For further information on documentation and support for your printer or for information on other Océ Display Graphics Systems products, please visit our web site:
http://www.dgs.oce.com
To provide feedback and report errors in this document: DGSTechnical.Writer@oce.com

Safety Information

This manual has three sections that contain details on safety when handling ink and using the printer. Also, where applicable, cautions and warnings are used throughout this manual to draw your attention to safety precautions.

- "Safety Guidelines for Ink Materials" offers advice in the proper handling of UV inks;
- "Interlock Safety System" explains the safety features built in to the printer that prevent and minimize access to Mechanical, Electrical, Thermal and UV hazards; and
- "UV Curing System Safety" presents warning about the dangers of exposure to UV light. Some of the material from that section are duplicated here.

Customer Service

If your printer malfunctions and you are unable to resolve the problem, field service technicians can be dispatched to your site to conduct repairs. Service visits are paid for by the customer, either under a maintenance agreement, by purchase order or prepayment. Time and material rates are charged for any service not covered under a maintenance agreement. Before calling to report a problem, gather as much information about the problem as possible and have it ready to provide to your customer care center. The more information you can provide initially, the more quickly the problem can be corrected.

Statement of Foreseen Use

The Océ Arizona flatbed inkjet printers are intended for use in a commercial printshop environment. Factory-authorized training is made available for operators at the time of installation. The printers use piezo printing technology and UV curable inks to produce outdoor-durable output. They can print directly onto rigid and flexible media of up to 48 mm (1.89 inch) thickness. The printer holds the media stationary while the printhead assembly moves across to create the print, eliminating image skew problems often associated with rigid stock feed systems. With the Roll Media Option installed the printers can also print on various roll media. See your local representative or visit the Océ Media Guide for more details on recommended media.
http://mediaguide.oce.com/

Responsibilities of the Operator

The printer operator must be properly trained. Océ provides training for the operator in the use of the printer hardware and software at the time of installation. It is the customer's responsibility to ensure that only properly trained personnel operate the printer. Operators must be fully versed in the operation of ONYX ProductionHouse® or PosterShop (318 GL only). For any operator unfamiliar with these applications, ONYX training is required. Training courses are available; contact your local Océ representative.

The operator or other trained personnel are expected to handle all user maintenance as detailed in the User Manual, and also replacement of consumable parts (except print heads). If your site has a technician in charge of printer maintenance, that person is the optimal candidate. While any trained operator may perform routine maintenance, the best maintenance results from familiarity with the printer's internal operation and history.

The printer requires daily printhead maintenance to ensure the highest print quality and longer life for the printheads. The printer design provides you easy access to perform this simple task and it is essential that printhead maintenance is performed at least once a day, and more frequently if needed. Periodic cleaning must be scheduled for some components on a regular basis. A few minutes spent cleaning also helps to ensure optimal printer function and the highest quality prints.

It is the responsibility of the operator to try to eliminate simple problems before calling a service representative. But knowing when to call for service is also important. An untrained operator must not attempt to service the printer as this may cause further damage. When you have determined that a service call is required, call as soon as possible. See the Troubleshooting and Maintenance sections for more details.

Responsibilities of the Service Technician

Field service technicians must have Océ Display Graphics Systems service training. The service technician is responsible for all repairs, upgrading and modification requested by the customer or mandated by the Océ Display Graphics Systems Service and Support Group. The service technician who installs the printer will also provide training for the operator that covers all of the basic skills required to operate the printer. Service personnel are furnished with proper tools for the installation and maintenance of the printer. In addition to the tools and custom kits, each engineer will have basic tools for proper maintenance and servicing.

Product Compliance

Introduction

This section provides the EMC FCC compliance information and points to the DGS web site for access to the official documents for all agency compliance standards that the Océ Arizona 400 Series GT and Océ Arizona 400 Series XT conform to. It also provides printer manufacturing and contact information and a list of any toxic or hazardous material in the printer.

Electromagnetic Compliance (EMC)

FCC Statement for Class A Device:

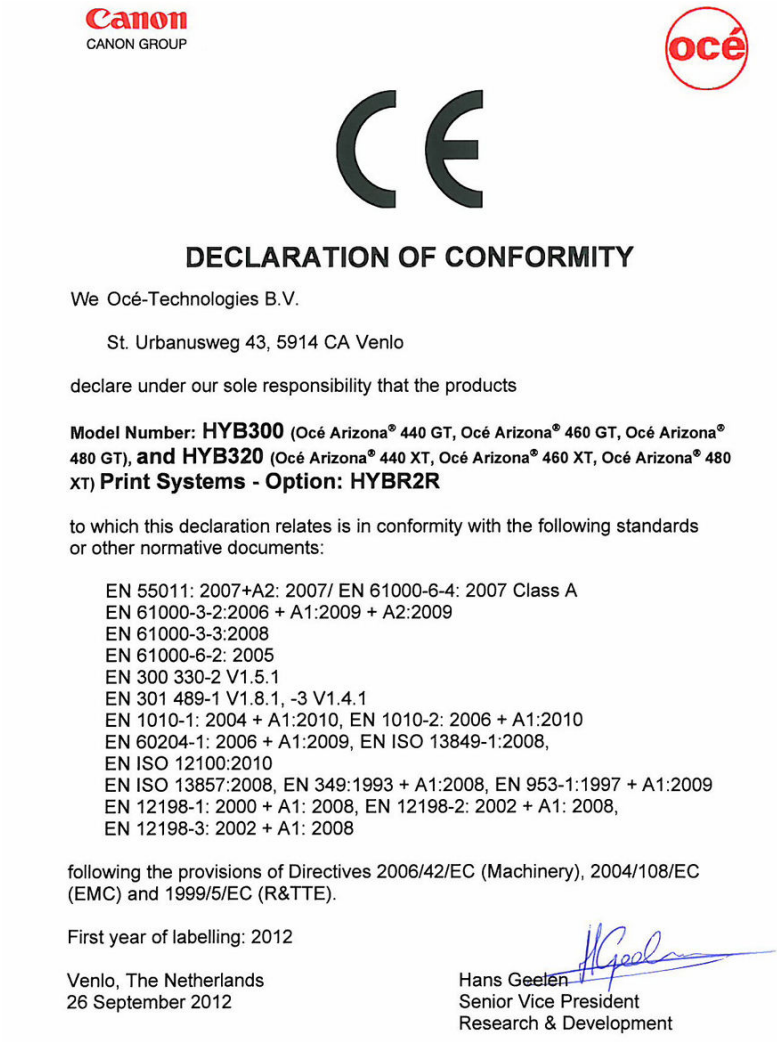
This equipment generates, uses and radiates radio frequency energy and if not installed and used as designed or intended, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class A computing device. This equipment has been designed to provide reasonable protection against such interference when operated in residential and commercial environments. Operation of this equipment in a residential area may cause interference, in which case the user, at his own expense, is required to take whatever measures are required to correct the interference.

FCC Notice: This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1) This device may not cause harmful interference, and
2) This device must accept any interference received, including interference that may cause undesired operation.
Any change or modification not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This device contains an intentional radiator (RFID)
Radio Certificate Number: IC:6497A-3010105668
FCC Identifier: U2P-3010105668

Product Safety

The CE Declaration of Conformity document is provided for your convenience.



Canon
CANON GROUP

océ

CE

DECLARATION OF CONFORMITY

We Océ-Technologies B.V.

St. Urbanusweg 43, 5914 CA Venlo

declare under our sole responsibility that the products

Model Number: HYB300 (Océ Arizona® 440 GT, Océ Arizona® 460 GT, Océ Arizona® 480 GT), and HYB320 (Océ Arizona® 440 XT, Océ Arizona® 460 XT, Océ Arizona® 480 XT) Print Systems - Option: HYBR2R

to which this declaration relates is in conformity with the following standards or other normative documents:

EN 55011: 2007+A2: 2007/ EN 61000-6-4: 2007 Class A
EN 61000-3-2:2006 + A1:2009 + A2:2009
EN 61000-3-3:2008
EN 61000-6-2: 2005
EN 300 330-2 V1.5.1
EN 301 489-1 V1.8.1, -3 V1.4.1
EN 1010-1: 2004 + A1:2010, EN 1010-2: 2006 + A1:2010
EN 60204-1: 2006 + A1:2009, EN ISO 13849-1:2008,
EN ISO 12100:2010
EN ISO 13857:2008, EN 349:1993 + A1:2008, EN 953-1:1997 + A1:2009
EN 12198-1: 2000 + A1: 2008, EN 12198-2: 2002 + A1: 2008,
EN 12198-3: 2002 + A1: 2008

following the provisions of Directives 2006/42/EC (Machinery), 2004/108/EC (EMC) and 1999/5/EC (R&TTE).

First year of labelling: 2012

Venlo, The Netherlands
26 September 2012

Hans Geelen
Senior Vice President
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[1] CE Declaration of Conformity

Manufacturer:

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Telephone: 31 77 359 2222
Fax: 31 77 354 4700
E-mail: info@oce.com

Toxic and Hazardous Substances or Elements in the Product

Part Name	Lead (pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent (CrVI)	Polybromiated biphenyls (PBB)	Polybrominated diphenylether (PBDE)
UV Curing Lamps	No	Yes	No	No	No	No
VGA Monitor	N o	Yes	No	No	No	No
Vacuum Guage Indicator	Yes	No	No	No	No	No
Linear Encoder Readheads	Yes	No	No	No	No	No
Printheads	Yes	No	No	No	No	No

Yes indicates that the substance is present in that printer component.
No indicates that the substance is NOT present in that printer component.

Chapter 2
Product Overview

Printer Specifications

Introduction

The Océ Arizona 400 Series GT and Océ Arizona 400 Series XT are flatbed inkjet printers capable of producing large format images on various rigid and flexible media. The printers consist of a flatbed vacuum table and moving gantry. Media is held flat and stationary on the vacuum table during printing. The gantry contains a carriage that sweeps across the table as the gantry moves in steps along the length of the table to print an image on the media. A Roll Media Option is available to facilitate printing on roll media.

Illustration

[2] Arizona 400 Series GT Printer with RMO

Printer Specifications

The printer must be operated in accordance with the environmental conditions specified in the Océ Arizona 400 Series Site Preparation Guide. Also note that there are many safety requirements and precautions indicated in this document. Be sure to read all of the safety sections before using your printer.

Note:
All specifications in this document are subject to change without notice. While due caution has been exercised in the production of this document, possible errors and omissions are unintentional.

Specifications

Feature	Specification
Printing Technology	Piezoelectric inkjet using Océ VariaDot™ technology:
UV Ink	Standard: CMYK Optional: White, Light Cyan, and Light Magenta
Varnish	Optional
Maximum Media Size	GT models: 2.5m (98.4") x 1.25m (49.2") XT models: 2.5m (98.4") x 3.05m (120.1")
Media Thickness	Maximum: 48mm (1.890")
Maximum Print Size	GT models: 2.51m (98.8") x 1.26m (49.6") XT models: 2.51m (98.8") x 3.06m (120.5")
Media Weight	Maximum: 34 kg/m² (7 lbs/ft²)
Nozzle Drop Volume:	Variable droplet sizes: 6, 12, 18, 24, or 30 picolitres
User Interface	LCD flat-panel monitor and mouse on a user-positioned podium.
Curing System	UV curing lamps with variable power settings.
Power Requirements Voltage: (Rated Current: 16A)	208 through 240VAC ±10% 60Hz Single Phase 200 through 240VAC ±10% 50Hz Single Phase Current: 2 AC lines -16A Recommended Circuit Breaker: North America 20A, European Union 16A.
BTU Output	10,000 BTU (2950 watts) under continuous operation.
Hardware Interface	USB, Ethernet TCP/IP, 100 base-T (or Gigabyte, if supported by the local network).
Image Processing Software	ONYX® ProductionHouse Océ Edition version X10.2 or THRIVE.

Chapter 3
Safety Information

UV Ink and Flush

Introduction

The safety concerns involved with the handling and use of the UV ink and Flush are detailed in the Material Safety Data Sheet (MSDS) documents. Review them before handling any UV ink or flush.

Note:
The MSDS for all UV inks and Flush are available from the corporate Océ Global E-Marketing (GEM) website. For the latest MSDS and PSDS, visit:
http://global.oce.com/support/

Caution:
UV inks can be harmful if not properly handled. Follow the MSDS guidelines carefully in order to ensure maximum safety.

Personal Safety

The operator must wear nitrile gloves, a protective apron, and safety glasses with side shields when handling inks. Read and practice safety guidelines as outlined in the MSDS for each ink. Post these documents in the work area as required by prevailing law. MSDS are provided with all inks and flush when you purchase them.

Print Height Warning

Avoid printing at a height greater than recommended as this causes excessive emmsisions of UV light and ink mist. Always measure the thickness of the media in use and set the carriage height correctly for that media.

Disposal of UV Ink

All waste containing uncured or partly cured UV ink is hazardous and must be disposed of separately according to local regulations. Do not mix ink waste with non-hazardous waste (household, office, etc.). Do not allow it to reach sewage systems or drinking water supplies. Ink waste includes maintenance pads and cloths, gloves and any other material containing uncured or partly cured UV ink.
Disposal must be made according to official local regulations.

UV Curing System

Introduction

UV-curable ink need a high energy level of UV light to cure. The UV curing system is made up of two mercury arc lamps attached to the carriage.

How to Handle UV Lamp: UV lamps operate at high temperatures. Never touch a lamp in operation. Let the lamps cool for a minimum of five minutes before attempting any maintenance. Use extreme care in handling the UV lamp bulbs. The UV bulbs contain a small amount of metallic mercury which is toxic when ingested, handled, or breathed. Therefore, if bulbs are broken, care should be taken to clean up the spill immediately, and then disposed of according to local regulations concerning Mercury disposal.

Bare skin contact with the UV lamp bulbs must be avoided. When heated, compounds from the skin can form permanent etching on the surface of the UV bulb. A contaminated bulb may fail prematurely.

Ozone: As a UV lamp warms up, it briefly passes through a section of the light spectrum which excites oxygen molecules enough to create ozone. Once a UV lamp has completely warmed up, only very minute amounts of ozone are present.

Note:
A high concentration of ozone can cause irritation, headaches or nausea. Provide adequate ventilation as indicated in the Site Preparation Guide.

Caution:
Warning for Seated Individuals: UV emissions are highest at a height of 90 cm (35 inches) above the floor. This can be an issue for individuals seated near the printer.**Remove all chairs within 5 meters (16 feet) of the printer.**

Attention:
The UV Lamps contain Mercury. Dispose according to local environmental regulations.

Personal Safety

UV Light Emissions can be harmful:
Protective measures are essential in the workplace. Use the UV safety glasses with side shields supplied with the printer. Wear appropriate clothing that protects the skin from UV light exposure. Keep a distance of at least 1 m (3 ft) from UV lamps while printing.

Note:
Wear Industrial Protective Eyewear with lenses that block both UVA and UVB. Gloves and long-sleeved work clothes are essential to reduce the skin's exposure to UV emissions.

Safety Interlock System

Introduction

The printer has three Emergency-Stop buttons. The Maintenance Station drawer is part of the safety interlock system. A beacon light indicates the status of the safety system and the printer.

Components of the Interlock System

Emergency Stop Buttons:
These are located on the Operator Control Station, and on each end of the Gantry. Activating an Emergency-Stop button stops all printer motion and turns off the UV curing system.
To re-activate the printer after you press an Emergency Stop button, turn the button counter-clockwise. Upon release of the button, no motion can be initiated without acknowledgment of the Operator from the Control Station.

Maintenance Station Interlock Function:
The Maintenance Station is located under the carriage and provides access to perform Printhead Maintenance and swab printheads. Carriage and Gantry motion motors are disabled and UV lamps are turned off (if they were On), when the station drawer is open. The Interlock system is automatically reset when the drawer is closed.

Beacon Light Status

A green beacon light is mounted to the top surface of the printer carriage. The purpose of this light is to indicate basic printer status to the operator.
Beacon off: indicates the printer can be approached without caution. The machine cannot initiate movement since the interlock Safety System has disabled all motion and hazardous hardware.
Beacon on: indicates the printer is powered up and ready to initiate motion. This tells an operator to approach the machine with caution, because it can initiate motion at any moment.

Océ Arizona 400 Series GT Safety Labels

Introduction

The safety labels are placed at strategic locations on the printer to warn the operator of possible dangers and hazards. It is important to be aware of the meaning of these labels to ensure safe operation of the printer.

Caution:
Read and understand all of the safety label descriptions in the table below before operating the printer.

Safety Labels

Safety Labels

Description	Label
Warning: UV Light Hazard. Avoid looking directly at UV lamps. Located on carriage cover to remind the operator that looking at the UV light source is dangerous. Wear protective eye-wear with side shields, gloves and long sleeves when using this printer. Ultraviolet Light Radiation Hazards Emission: Effective UV-irradiance Emission Category according to 7.1 of EN12198-1:2000 - - Special restrictions and protective measures are essential when the machine is used in the workplace.	
Wear Safety Gloves Located on the maintenance station as a reminder to always wear gloves when handling ink.	
Risk of Eye Injury. Wear Eye Protection - Located on the maintenance station as a reminder that the UV-curable ink is harmful to the eyes and skin. Always wear glasses and gloves when handling ink.	

Description	Label
Machine lockout: a reminder to turn off and lock out the AC power switch before servicing any electrical components. Located on the mains power switch.	
Warning: Electric Shock Hazard Located on the door to the electronics enclosure, the UV lamp power supply cover, the carriage cover, and the vacuum pump enclosure. This area can only be accessed by a trained service technician.	
General Warning Located on the AC enclosure cover. This area can only be accessed by a trained service technician.	
Pinch Point A reminder that horizontal movement of the carriage can create a pinch hazard as it moves along the gantry. Located on both ends and the rear of the carriage.	
Crush Hazard: Keep hands clear while operating. A reminder that vertical movement of the carriage can be a crush hazard if hands or objects are placed in these locations. Located on the maintenance station and both ends of the gantry.	
Thermal Hazard Radiated heat from the UV lamps can cause burns. Located on the carriage near the two UV lamps.	
Caution: For Continued Protection Against Fire And Electric Shock Replace Only With Same Type and Ratings of Fuse	
Caution: Disconnect Power Before Changing Fuse. Refer to the section "How to Power the Printer On and Off"	 [13] Disconnect Power

Description	Label
Electrical Shock Hazard Equipment Powered by two power cords. Turn off power switch or remove both power cords before servicing Refer to the section "How to Power the Printer On and Off"	 [14] Electrical Shock Hazard
Warning: High Leakage Current Earth Connection Essential Before Connecting Supply Refer to the Arizona Printer Site Preparation Guide.	 [15] High Leakage Current
Danger: High Voltage Warning that High Voltage is present behind marked panel.	 [16] High Voltage
Warning: Isolate Power Before Servicing. Refer to the section "How to Power the Printer On and Off" and sub-section "How to Lock Out the Power Switch".	 [17] Isolate Power
Warning: Line Voltage Always Present Warning that High Voltage is present behind marked panel at all times, even when machine is turned off	 [18] Line Voltage Present
Warning: Moving Gantry If the green beacon light on top of the carriage is on, the gantry may start moving at any time.	 [19] Moving Gantry

Description	Label
No Step Do not step on the table strut. If pressure is put on the table strut it can bend and thus affect the level of the printer table and therefore print quality.	 [20] No Step on Strut
PE - K GND Protective Earth Identification.	 [21] PE-K

Safety Awareness

Introduction

This section contains two sets of principles that must be followed to assure maximum safety when operating your Océ Arizona printer. The first set uses negative examples to show you things to avoid in order to prevent injury to the operator. The second set of principles illustrates some of the residual risks that are inherent in the operation of the printer. These are situations or physical aspects of the printer that may present a potential danger to the operator, but would compromise the capabilities of the printer if changed. Therefore, they are pointed out as a precaution the operator must be aware of when using the printer.

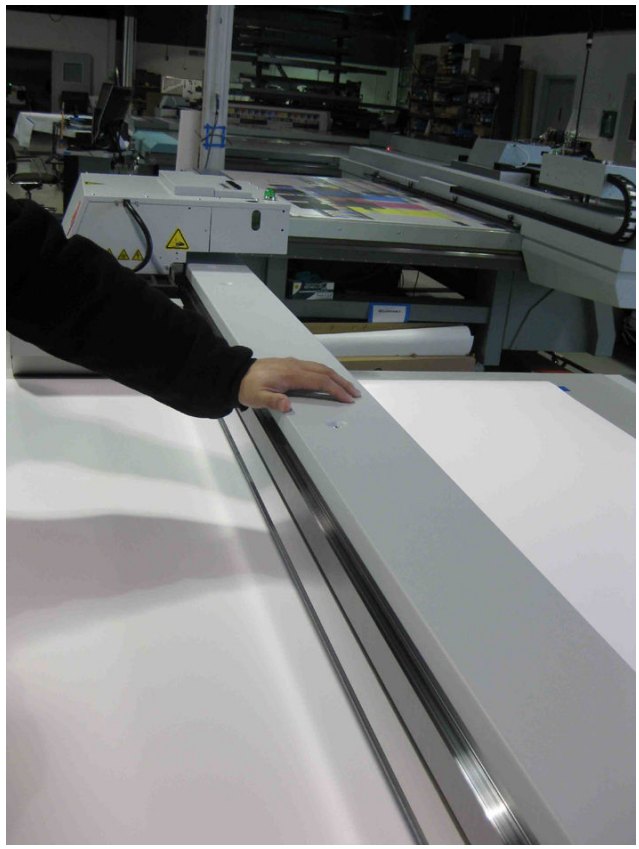
Attention:
The photos in the following table illustrate situations that must be avoided when operating your printer.

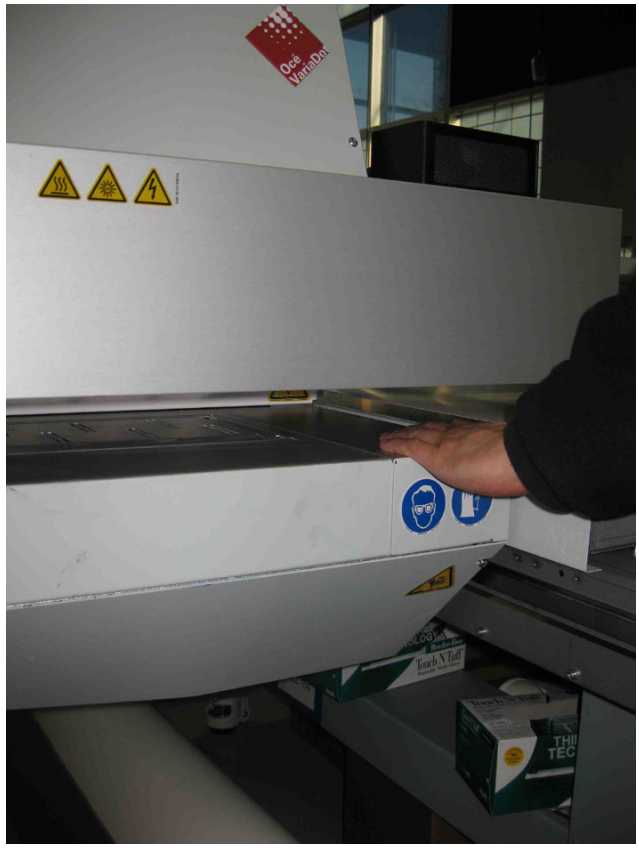
Situations and Actions to Avoid

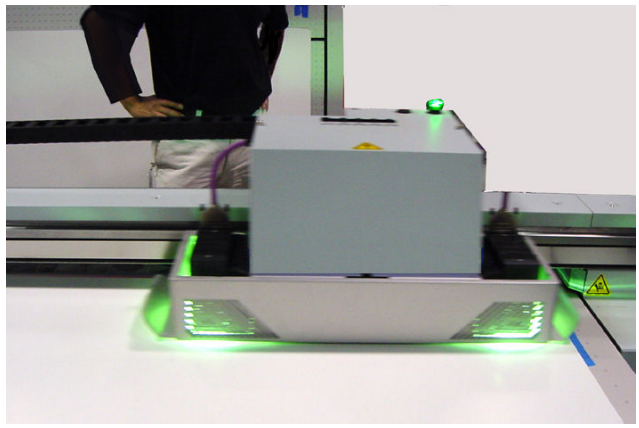
How NOT to use the printer

Avoid these Situations For Your Personal Safety	
[22] Keep the table clear	Do not place your hand in the carriage pathway when printer power is on. Do not leave any objects on the table printing surface, except for media that you will print on. Also make sure the media is 48 mm (1.89 inches) or less in thickness.

Avoid these Situations For Your Personal Safety	
[23] Avoid Carriage Movement	Do not push or force the carriage to move manually if it is already in motion. If you do move the carriage, a Motion Error message will display and you will have to use the mouse to click Reset on the user interface LCD display.

Avoid these Situations For Your Personal Safety	
 [24] Do not push gantry	Do not push or force the gantry to move manually if it is already in motion. If you do move the gantry, a Motion Error message will display and you will have to use the mouse to click Reset on the user interface LCD display.
 [25] Hot UV Lamps	When the Maintenance Station is open to perform printhead maintenance, do not touch the UV lamp assembly as it can be hot. Also be aware that the carriage will move up or down when the Raise Carriage switch is pushed.

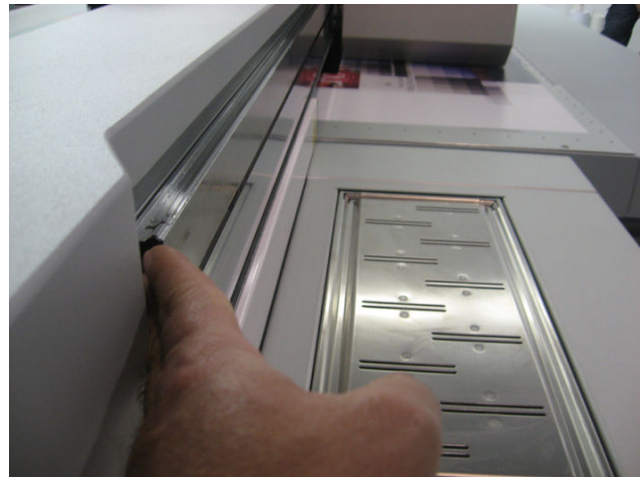
Avoid these Situations For Your Personal Safety	
 [26] Carriage Crush Hazard	Movement of the carriage up and down may be a crush hazard. Do not rest your hands in this area during daily printhead maintenance as this process causes the carriage to move up and down.
 [27] IGUS Hazard	Avoid placing fingers, hands or other objects in the IGUS track unless power is off and the printer is locked out.

Avoid these Situations For Your Personal Safety	
 [28] UV Lamp Hazard	Keep a distance of at least 1 m (3 ft.) to the UV light when printing. Avoid looking at the UV lamps, especially if you are seated at the same level as the carriage. Do not sit within 5 meters (17 feet) of the carriage path. Also do not touch the UV lamp assembly or the surrounding guard as they will be hot and may result in burns of the skin.

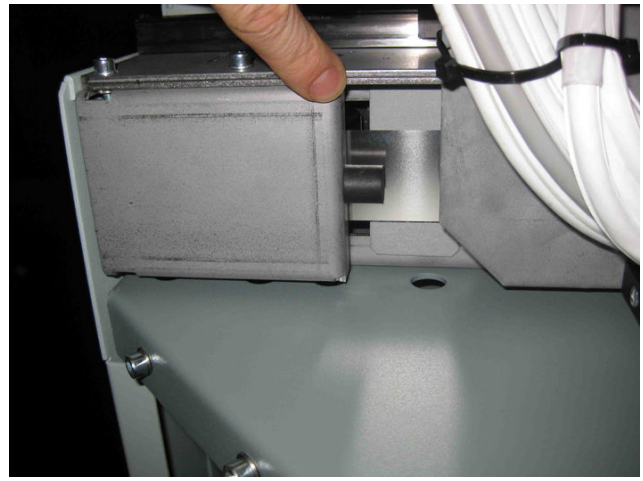
Residual Safety Risks

Your Océ Arizona printer is engineered to minimize machine components and operating procedures that may compromise operator safety. However, in order to maintain some machine operations and functionality, certain compromises are required. The following table documents some of these residual hazards. By making the operator aware of the potential risks, we hope to ensure maximum safety in the operation of this printer.
Caution: there may be a time lag between when a print job is issued and when the gantry movement actually begins as the UV lamps must warm up first. Movement can start many minutes after a print job is sent.

Arizona Printer Residual Risks

Residual Risk Area	Hazard
A high risk crushing hazard is created by the movement of the carriage and gantry supports. Keep hands away from this area unless the printer power is off.	[29] Carriage guard and 45° guard on Gantry Supports
A crushing hazard is created by the movement of the carriage along gantry rails. Keep hands away from this area unless the printer power is off.	 [30] Carriage Guard and Gantry Rails

Residual Risk Area	Hazard
A high risk crushing/pinch hazard is created by the table and the gantry.	 [31] Table/Gantry Pinch hazard
A high risk crushing/pinch hazard is created by the table and the carriage.	 [32] Table/Carriage Pinch Hazard

Residual Risk Area	Hazard
A high risk crushing/pinch hazard is created by the carriage and the gantry when the Z-Axis is moving (carriage moves up or down).	[33] Carriage Vertical Movement Pinch Hazard
A high risk shearing hazard is created by the gantry and the gantry rail. This photo shows the view from the bottom. Do not place fingers or hands in this area.	 [34] Gantry Shear Hazard

Residual Risk Area	Hazard
A high risk shearing hazard is created by the gantry and the gantry rail. This photo shows another view from the bottom. Do not place fingers or hands in this area.	[35] Gantry Shear Hazard

Residual Risk Area	Hazard
A high risk shearing hazard is created by the carriage and the gantry frame.	[36] Gantry Frame Shear Hazard
Entanglement hazard A medium risk of finger or material entanglement is created by the web assembly (IGUS track).	[37] IGUS Impact Hazard

Residual Risk Area	Hazard
A medium risk impact hazard is created by the carriage when cycling from left to right.	[38] Carriage Impact Hazard
Heat hazard: the UV lamp assembly and the surrounding carriage guard can be hot. The Carriage Guard is an aluminum fence around the perimeter of the carriage. If the guard is not properly seated all gantry and carriage motion is disabled, UV Lamps are switched Off. After re-seating the Carriage Guard, the Operator must provide acknowledgement to re-enable functioning.	[39] UV Lamp Heat Hazard

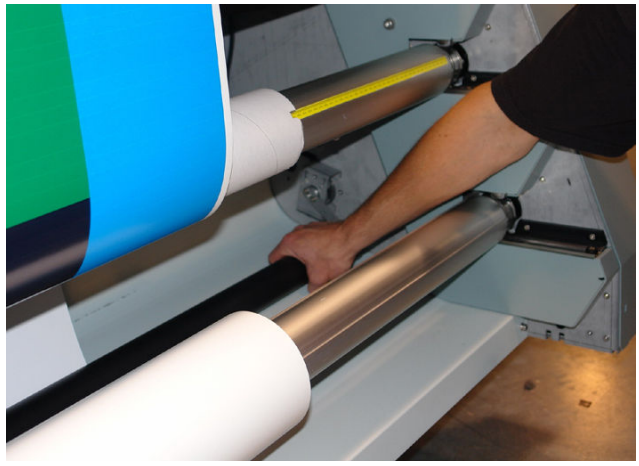
Roll Media Safety Awareness

Introduction

This section contains two sets of principles that must be followed to assure maximum safety when operating the Roll Media Option (RMO) for your Arizona printer. The first image uses a negative example to show you a situation to avoid in order to prevent injury to the operator. The following images illustrate some of the residual risks that are inherent in the operation of the printer. These are situations or physical aspects of the printer that may present a potential danger to the operator, but would compromise the capabilities of the printer if changed. Therefore, they are pointed out as a precaution the operator must be aware of when using the printer with the Media Roll Option.

Situation and Action to Avoid

How NOT to use the Roll Media Option

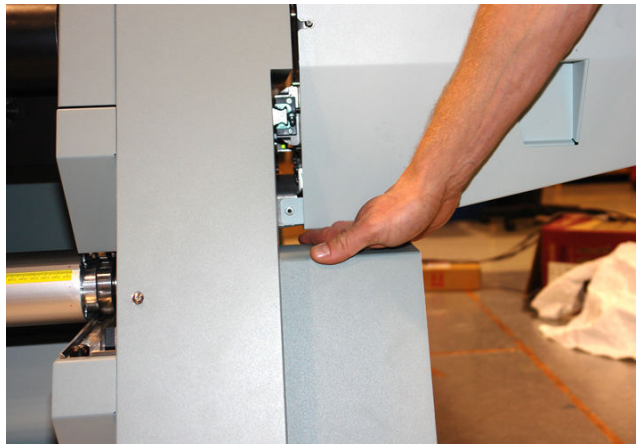
Avoid these Situations For Your Personal Safety	
	Do not place your hands near any of the media shafts or the media tension bar when the printer is printing.

Residual Safety Risks

Attention:
The photos in the following table illustrate residual risks that must be avoided when operating the RMO with your printer.

The Roll Media Option is engineered to minimize machine components and operating procedures that may compromise operator safety. However, in order to maintain some machine operations and functionality, certain compromises are required. The following table documents some of these residual hazards. By making the operator aware of the potential risks, we hope to ensure maximum safety in the operation of this printer.

RMO Residual Risks

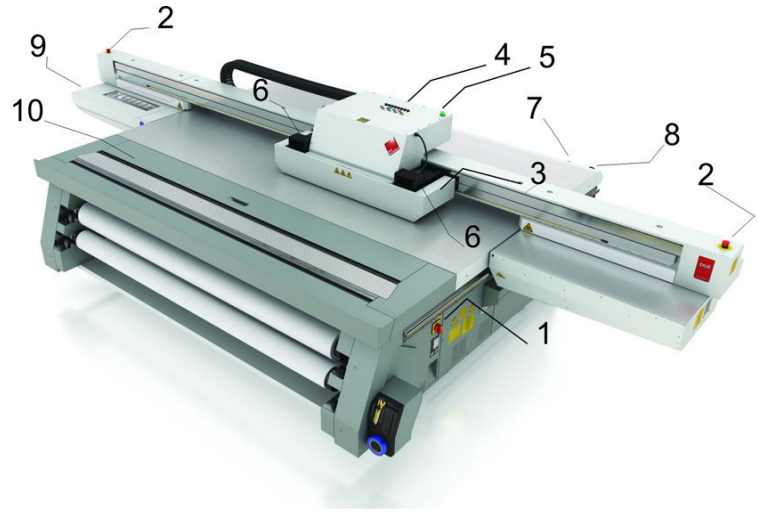
Crushing/Shear Hazard	
	Do not place your hand near the shaft drive motors when the printer is printing or when the dual foot controls are pressed.
	Do not place your hand on the Media Roll motor enclosure when the green beacon light is On as the gantry may move at any time.

Chapter 4
How to Navigate the User Interface

Operator Interface Hardware

Introduction

The Operator interacts with printer components to print, maintain, and monitor the state of the printer. This section identifies and explains the functions of the hardware.



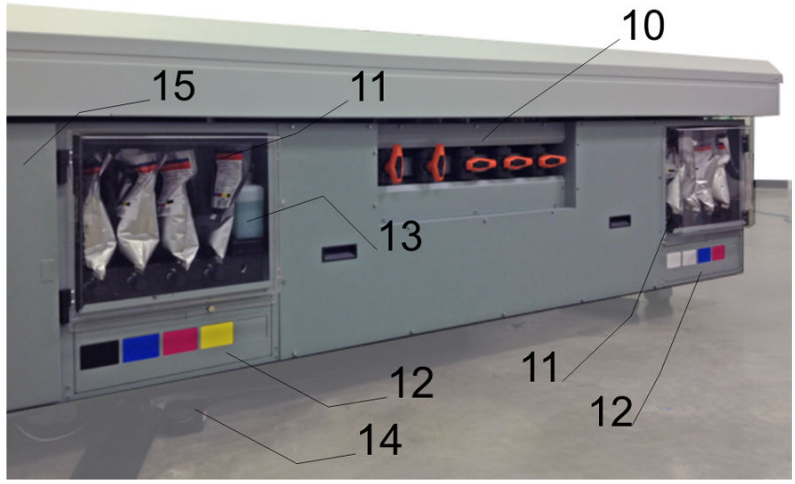
[43] Printer Hardware

Operator Interface Components

Hardware Interface Components

Component	Function
1) Main Power Switch	Turns the printer On and Off.
2) Emergency Stops	Emergency stop buttons can shut down all motion and hazardous systems. There are three E-stops, one on the podium stand, and one on each end of the gantry.
3) Carriage Guard	Protects the Operator from exposure to UV light and stops all motion if dislodged by an obstacle.
4) Ink Purge Valves	Allow the operator to isolate specific printheads to purge ink as part of cleaning the nozzles.
5) Printer Status Beacon	Indicates printer status. See Chapter 3 for details.
6) UV Lamps	UV light is used to cure the ink.

Component	Function
7) Vacuum Gauge	Displays the strength of the table vacuum system. If it reads less than 10"Hg, check for vacuum leaks.
8) Print Button	Starts the current print job.
9) Maintenance Station	Designated area for cleaning the printheads and the underside of the carriage.
10) Vacuum Zone Control Handles	Five vacuum zone control handles determine if vacuum zones 2 to 6 on the printer table are active when the vacuum pump is switched on. Zone 1 is always on so it has no control handle. The zones on the Océ Arizona 400 Series XT model are different (see Chapter 6 for details).
11) Ink Bay	There are two ink bays: the Primary bay contains CMYK ink and the coolant bottle; the Secondary bay holds the optional light Cyan, Magenta, and White inks or Varnish.
12) Ink Filters	Ink filters are behind a door under the ink bags. The filters remove unwanted particulate matter from the ink.
(13) Coolant Bottle	Provides coolant to maintain correct temperature of the ink in the printheads.
(14) Vacuum Table Foot Switch	Toggles the pump to turn the table vacuum on/off. Vacuum must be on prior to starting a print.
(15) Bulkhead access door	Provides access to the connections required to plug in the podium components such as LCD monitor, mouse, and E-stop. Also is a storage location for the coolant supply bottle.



[44] Vacuum Zone Control Handles

Printer Interface Software

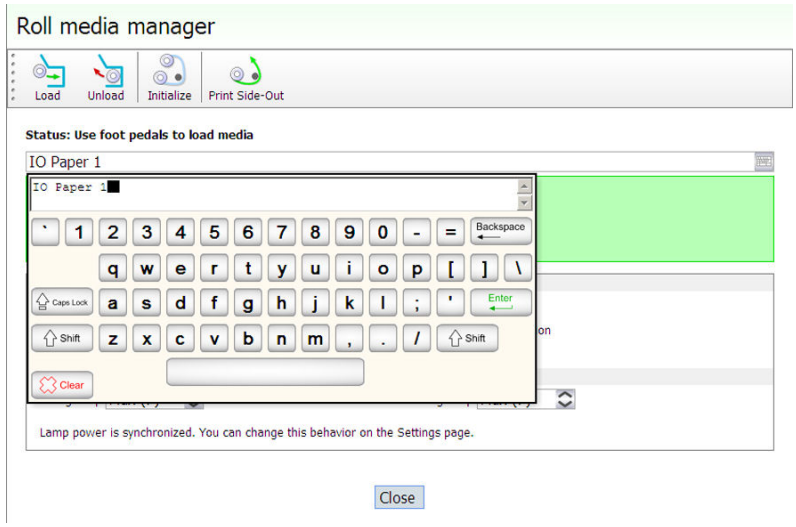
Introduction

The printer software is displayed on the LCD monitor. The interface has six main modules that are accessed by tabs located at the bottom of the display. Click on these tabs to access the modules. Print Job Control is the default module displayed when the software has finished loading after the printer is switched on or reset.

The Print Job Control display is divided into functional and status areas. The functional areas supports all operator input necessary to operate, maintain and service the printer. The status areas are used to report printer status.

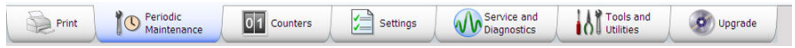
Onscreen Keyboard & Numeric Keypad
A mouse is used as the input device to navigate the menu-based interface. For operations that require operator input, the mouse is used to select either numeric characters from a virtual keypad or alphanumeric charaters from a virtual keyboard. These virtual input screens are displayed on the interface LCD monitor when data entry is required.

Illustration



[45] Virtual Keyboard

Operator Interface Module Tabs



[46] Interface Tabs

Interface Modules

Component	Function
Print Job Control (Print tab)	Provides management of all aspects of working with print jobs. It also controls some features of the printer and provides access to Roll Media print controls (if that option is installed).
Periodic Maintenance	Displays maintenance tasks you must perform and indicates when to do them. After you perform each task, the printer will record that and then calculate when the task must be performed again. At that time you will be reminded that the particular maintenance task is due.
Printer Counters (Counters Tab)	Provides information about the amount of ink consumed, the amount of media printed and the number of print jobs started. Also provides counters for the UV lamp bulbs use.
Printer Settings (Settings tab)	Displays information about, and also allows you to change various aspects of the printer: Date and Time, Network Connections, User Interface, Printer Settings, and Roll Media Settings (if that option is installed).
Service and Diagnostics	This area is reserved for use by trained field service technicians only.
Tools and Utilities (Tools and Utilities tab)	Provides access to the Shutdown, Job Manager, Special prints, Ink Flush Procedure, Spit Catcher Alignment, and Log files.
Software Upgrade (Upgrade tab)	Allows you to update the printer to the latest version of the printer software and firmware.

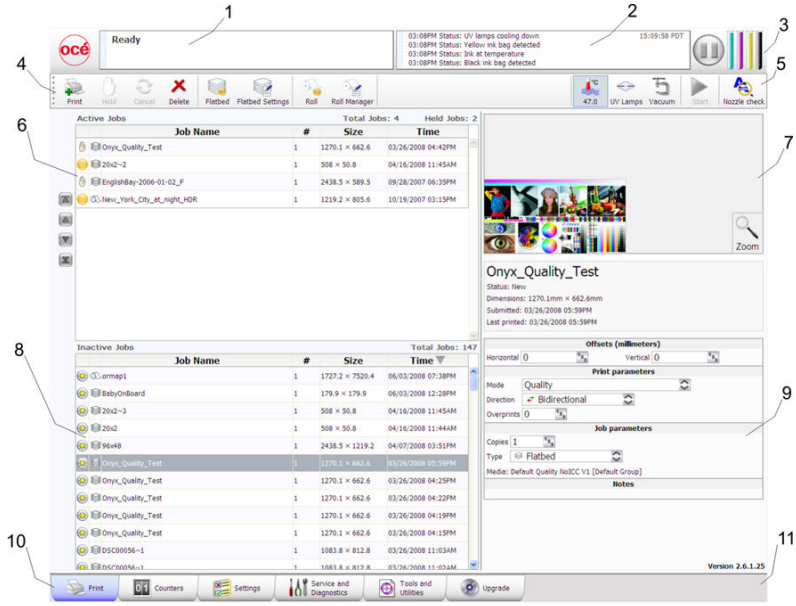
Print Job Control Module

Introduction

Print Job Control is the first module displayed when the printer software is loaded. From this module you can manage all aspects of working with print jobs and also control many features of the printer. The table "Job Control Panels" documents the numbered callouts and the rest of this section explains each of these areas in more detail.

The Print Job Control display is divided into functional and status areas. The functional areas supports all operator input necessary to operate, maintain and service the printer. The status areas are used to report image and printer status.

Illustration



[47] Print Job Control

Components of the Print Job Control Module

Job Control Panels

Component	Function
1) Job and Printer Status	Displays the status and progress of print jobs.
2) Printer Messages Panel	Displays the last four lines of the log - click in this area to see more of the log.

Component	Function
3) Pause/Resume and the Ink System Status	To the right is the print job Pause/Resume button and the Ink System Status icon - click to view an ink status report.
4) Command Toolbar left	Displays icons for actions related to the print jobs and control of the printer.
5) Command Toolbar right	Displays icons for ink temperature, lamp control, start print jobs, and print a nozzle check.
6) Active Jobs List	Displays a list of all Active print jobs.
7) Job Placement Preview	Displays the selected print job with a preview that shows the placement of that job on the printer.
8) Inactive Jobs	Displays a list of all Inactive print jobs.
9) Job Information and Parameters panel.	This panel shows the parameters of the currently selected print job and also allows changes to the parameters associated with that job.
10) Interface Tabs	Use these tabs to select the different modules of the printer user interface.
11) Software Version Number and Image Upload Progress	Displays the current installed version of the printer software. The image upload progress panel indicates the name of a print job that is currently uploading to the printer. This panel is not always visible and appears only when an image is loading to the printer. It is located below the software version number when it is active.

Job Control Components Explained

1) Job and Printer Status Panel

The job status panel is in the top left corner of the display screen. It shows information about the current state of the printer or job activities.

- Printer Status
- Job name currently printing
- Total copies, number of printed copies and copy progress
- Overprint progress and number of overprints if more than zero

All incoming jobs go directly into the job list or job queue.
Selecting a job in the list highlights the job and updates the job information area.
The job information area contains offsets, print quality mode information, number of copies and overprints, and the name of the ProductionHouse profile used and the image to be printed is also displayed.
Jobs can be moved up or down in the list and can either be printed, held or canceled.

2) Printer Messages (or Log) Panel

The printer status panel is in the top right corner of the display. It shows the last four lines of the printer log that contains printer errors, warnings, and information messages. To see more of the log, click on the panel to bring up a new window that allows you to scroll through the log.

3) Pause and Ink Status

Pause/Resume print button. This button can be used to pause or resume a print job. It is active only while a job is printing.

Note:
Use of the Pause/Resume button may cause artifacts in a print because of the uneven curing of the ink if the job is paused. Do not use this unless it is essential that the print job is paused.

Ink System Status. Click the icon to open an ink system status dialog that displays ink-related information. This includes, for each color of ink: an expiry date, ink type code, ink bag status, fill status (whether ink is being pumped into the reservoir), and whether the reservoir is full. The dialog also shows the current printhead temperature, the meniscus vacuum level, and the purge pressure.

4 & 5) Command Toolbar
The toolbar contains icons that allow you to interact with the printer (icons are listed in the table below in the order they are displayed on the command toolbar). Note that some of the icons have a checked and unchecked state with a different appearance of the icon image to reflect their state.

[48] Command Toolbar

Command Toolbar Icons Explained

Print job	This command can do the following actions depending on context: ■ Activates a selected inactive job by moving it to the active list. ■ Un-holds a held job. ■ Un-holds an job that had an error currently.
Hold job	The command can do following actions depending on context: ■ Puts an active job on hold. ■ Waits until the printer finishes a currently printing copy and puts the job on hold.
Cancel job	The command can do following actions depending on context: ■ Deactivates a selected active job by moving it to the inactive list. Note that Special Prints will not move to the inactive list. ■ Cancels a currently printing job and moves it to the inactive list. Note that the first click cancels the print, but the carriage will continue to apply curing passes so that the ink cures properly. A second click terminates the print job immediately.
Delete job	Deletes a job from the printer. However, you cannot delete a job that is currently printing.
Flatbed icon	Process flatbed jobs toggle command - Allows printer to process flatbed jobs. This must be selected to enable flatbed printing when the printer is booted or after re-setting the printer due to an error.

Flatbed Settings	A dialog window automatically appears when confirmation is required. If it is closed before you select Confirm, it can be reopened by clicking on this button. **Media Parameters** Enter or confirm the thickness of the media. The printer will automatically adjust the carriage height to media thickness and also the print gap. Media thickness confirmation is required only for the first copy of a print job, unless it is changed during printing. If the media thickness value is changed while printing, confirmation is requested before printing the next copy. **Lamp Power Control** Allows the operator to control the power output of each UV lamp independently. To extend lamp life, use the lowest setting that provides adequate curing for a particular media. Leading and Trailing Edge are relative to the direction of carriage travel. To enable or disable this setting, see the User Interface section of the Settings page "Tie lamp controls together". When enabled, this feature automatically matches the power of the trailing UV lamp, when power of the leading UV lamp changes. It is still possible to adjust the power of the trailing UV lamp individually, when this setting is not enabled.
Roll enable	Click on the Roll icon to enable or disable the Roll Media Option print queue (this allows you check media parameters before the job actually prints). Roll media print jobs will not print unless this icon is selected. *Note:* Roll media print jobs do not require explicit user actions to start the print job once Roll module is initialized (see Roll Media Manager in the RMO) If this icon is selected, and the job status is not on Hold, roll media print jobs will start automatically when the printer receives the job.
Roll Media Manager	The Roll Media Manager allows the operator to load and unload media and to initialize the Roll module so that the tension on the roll media is set and the job is ready to print.

Ink Temperature Control	This icon controls the ink heater and also displays the ink temperature. The state of the button reflects the status of the ink heater. The heater times out after two hours of inactivity (time can be changed up to four hours by a service technician). If the ink heater is turned off when the timeout period has expired, the button changes its status to unchecked. The print heads must be at operating temperature (47°C / 116°F) before a job will start printing. *Note:* If this button is flashing, it indicates an error. Click on the Ink Status button to check the ink system.
UV Curing Lamp Control	This icon controls the UV curing lamps. The state of the button reflects the state of the lamps. The UV lamps will timeout after 15 minutes of inactivity (time can be changed by a service technician). If lamps are extinguished when the timeout expired, then the button changes its status to unchecked. If lamps are off before the print starts, then lamps are turned on automatically and the button would reflect the state accordingly.
Table vacuum	This button controls the table vacuum and duplicates the function of the table vacuum foot switch. The button reflects the actual state of the table vacuum. There is an automatic timeout that will turn the table vacuum off. The actual time is set in the Settings module under Printer. *Note:* Once turned off, vacuum cannot be turned on again for approximately 5 seconds.
Start	This icon can be used to start a flatbed print job (same function as the physical button on the table).

Nozzle check	This icon populates the active job list with a job that prints a nozzle check pattern. The nozzle check print is used to identify nozzle dropouts that can cause banding and other print quality problems. There are two versions of the nozzle check: Nozzle Check and Nozzle Check Narrow (narrow is for RMO media that is not wide enough for the length of the standard nozzle check print. When you select the nozzle check icon from the Print Job Control command toolbar, the narrow version of the nozzle check will automatically be selected if the standard nozzle check will not fit on the media (based on the media width entered in the Roll Manager). If the width of the roll media is less than 1067 mm (3.5 ft) the Nozzle Check Narrow print is added to the job queue. Nozzle Check print: 1067 x 107.5 (3.5 x 0.35 ft) Nozzle Check Narrow: 886.5 x 214.7 (2.9 x 0.70 ft) *Note:* For information on how to use the nozzle check to troubleshoot nozzle dropouts, see the Printhead Maintenance section in the Maintenance chapter.

6) Active Print Job List

The active job list consists of a table, job count summary on top and job order control buttons on the left. A job count summary displays total number of active jobs and number of jobs put on hold. Job order control buttons can be used to change order of jobs queued for printing. The active job list has the following features:

- All incoming jobs issued from the ONYX ProductionHouse workflow (or other supported RIPs) go directly into the active job list.
- After a job is printed it automatically moves from the active to the inactive job list.
- The operator can drag and drop jobs to move them between the active and inactive job lists (except for a job that is being prepared to print).
- All the jobs are stored locally on the printer hard drive.
- Selecting a job highlights the job and updates the job information area.
- Jobs can be moved up/down in the active list using the button on the left. Jobs can either be printed, held, canceled or deleted. Jobs canceled from the active list are moved to the inactive list.
- Deleted jobs are removed from the hard drive and are no longer accessible (except for Special Prints, which cannot be deleted).
- The current job being printed can be paused or canceled. A canceled job will move from the active to the inactive print job list.
- A job count summary displays the total number of active and inactive jobs and the number of active jobs on hold.

7) Job Placement Preview
The table placement preview shows the print location and a proportional representation of the image in relation to the table. The zoom button in the bottom right corner activates a popup preview window. If a preview image is not available, an approximately sized white box is used as a placeholder, and the zoom button is not displayed.

The preview image can be positioned by dragging it around the window (this will automatically update the offsets fields).

When an image is out of bounds in the actual table area, that area in the table preview is marked in red.

When an image is out of bounds in the bleed region, that area of the table preview is marked in yellow.

Roll media print jobs will display only the middle part of the image if it does not fit in the window. They can't be repositioned by dragging in the window.

8) Inactive Print Job List
Inactive job list consists of a table and job count summary on top. A job count summary displays the total number of inactive jobs. The list can be sorted by clicking on the appropriate column header. The icons in the first column reflect the job type and status and can be use to sort the list. The size column is sorted by image area. Date column is sorted by a compound value of date and time. The inactive job list has the following features:

- The operator can drag and drop jobs to move them between the active and inactive job lists.
- Jobs deleted from the inactive list are deleted from the hard drive.
- The operator can automatically set the status of a job to Hold when the job is put in this queue. This can be set separately for flatbed and roll media jobs.

9) Job information and parameters panel
The job information area displays only relevant job parameters of the current print job. For example, the Overprints field is not displayed for roll media jobs. Some of the parameters may be modified.

Offsets	A job's vertical and horizontal offset parameters can be changed with the mouse wheel when the mouse cursor is positioned over the field. Rotate the mouse wheel up or down increments or decrements offset at the rate of one unit per notch. Hold the right mouse button and rotate the wheel increments or decrements at the rate of 10 units per notch. An alternate method to change parameter values is to click on the field and this brings up an onscreen keyboard so you can click on the numbers required. You can also use Preview to drag an image to the desired position.
Print Parameters	Displays information about the print job that is currently selected: ■ **Print Mode** - Print modes are selected in ProductionHouse or THRIVE: Express, Production, Production-Squared, Production-Smooth, Quality, Quality-Density, Quality-Layered, Fine Art, or High Definition mode. See "Print Modes Explained" below for details of each mode. ■ **Direction** - Bidirectional and Forward or Reverse unidirectional printing. ■ **Overprints** - If the Overprint count is set to greater than 0 (zero), the printer will re-print the image again on the same piece of media. ■ **Copies** - use the mouse to increase or decrease. ■ **Type** - Print Method - Flatbed or Roll. ■ **Media** - Media that was selected in ProductionHouse. ■ **Notes** - Appears only if a note was specified for the job. Notes are entered in the ONYX software.

Print Modes Explained

- **Express** mode provides fast printing but image quality depends on all nozzles jetting ink. It is best with images that do not have large areas of solid color or high saturation.
- **Production** mode (Arizona 440 & 460) allows a wide variety of printing output. As with high-speed modes on any inkjet printer, there is insufficient nozzle redundancy to produce flawless images all the time on all media. As a result, it may be necessary to print some output in Quality Mode.
- **Production-Smooth** mode (Arizona 480) can be used to produce the majority of printing output. As with high-speed modes on any inkjet printer, there is insufficient nozzle redundancy to produce flawless images all the time on all media. As a result, it may be necessary to print some output in Quality Mode.
- **Production-Squared** mode (Arizona 480) can be used to produce a wide variety of printing output as along as the printhead nozzles are firing properly. Production Squared Mode has a faster print speed than Production Smooth Mode but is more sensitive to nozzle outs. As with high-speed modes on any inkjet printer, there is insufficient nozzle redundancy to produce flawless images all the time on all media. As a

result, it may be necessary to print some output in Production Smooth Mode or Quality Mode.
Note: When Production Smooth or Squared mode is used, there is a pull-down menu in the Print Job module that allows you to select either Production-Smooth or Production-Layered (the menu allows you to change how it was configured in your ONYX software).

- **Quality** provides excellent image quality and is suitable for a wide range of image types and looks good with most media.
- **Quality-Density** doubles the density for backlit media. For flatbed media that may warp or move slightly from the heat of the lamps, this mode provides better image registration than Overprint because it is done in one gantry pass.
- **Quality-Layered** allows you to place multiple layers in one print job. It is most useful when printing with White Ink (see Chapter 9 How to Work with White Ink and Varnish). You must configure any extra layers in the ONYX software.
  Note: When Quality Density or Layered mode is used, there is a pull-down menu in the Print Job module that allows you to select either Quality-Layered or Quality-Density (the menu allows you to change how it was configured in your ONYX software).
- **Fine Art** is used when details are important and speed is not an issue. It is a good choice if your image contains text or fine details and also solid colors.
- **High Definition** provides higher resolution with more detail than Fine Art, especially with very small text or fine lines.
  Note: The Varnish option is not available with this print mode. Varnish is available with all other print modes, if you ordered the option with your printer.

10) Printer Interface Module Tabs
These tabs allow you to switch between different functional modules of the printer. Click on a tab to display the screen associated with each of the modules available.

11) Software Version Number and Image Upload Progress
Displays the version of the currently installed printer software.

The image upload progress panel indicates the name of a job that is currently uploading to the printer. This panel only displays information while an image is transferred from the ProductionHouse computer.

Periodic Maintenance

Introduction

Regular maintenance is very important to ensure the best image quality from your printer. In order to help you remember and maintain the proper schedule, the Periodic Maintenance module provides a list of the important tasks you must perform and indicates when you must do them. After you perform each task, click the Done button and the printer will record that and then calculate when the task must be performed again. At that time you will be reminded that the particular maintenance task is due. It is possible to postpone the task for a short time but the printer will remind you with a message periodically until the task is completed. Although you can select Done or Postpone even if the task is not complete, it is in your best interest to follow the recommended schedule. If you do not follow the maintenance schedule, image quality will decrease and printhead replacement frequency and costs will increase.

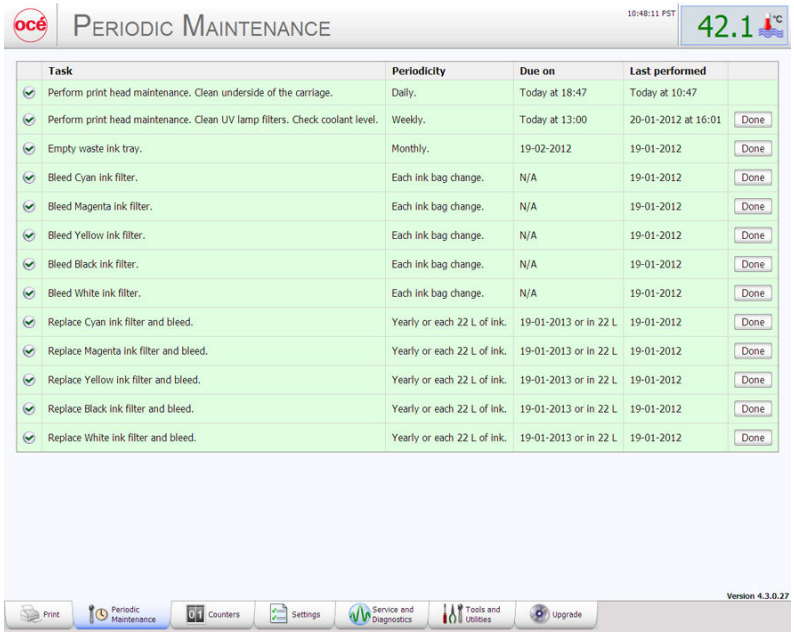
Note:
If you have not performed your daily Printhead Maintenance, a dialog box appears with a query to Perform or Postpone this task. If you choose to perform Printhead Maintenance the Periodic Maintenance screen will appear and the ink temperature is displayed. When the ink is at jetting temperature you can perform Printhead Maintenance.

The Importance of Printhead Maintenance

Daily printhead maintenance and ongoing care and cleaning of your printer is essential to good image quality.

- Improper or infrequent printhead maintenance is one of the main factors contributing to premature printhead failures.
- Improper printhead maintenance causes banding and reduces image quality.
- Pay attention to the conditions of the workplace environment as detailed in the Site Preparation Guide
- Use the cleaning methods and the maintenance schedule documented in this User manual, the Care and Use Poster, and the Printhead Maintenance video (you can download the poster and video from the customer support web site: http://dgs.oce.com/.

Illustration



[49] Periodic Maintenance

Component - function table

Maintenance tasks based on period

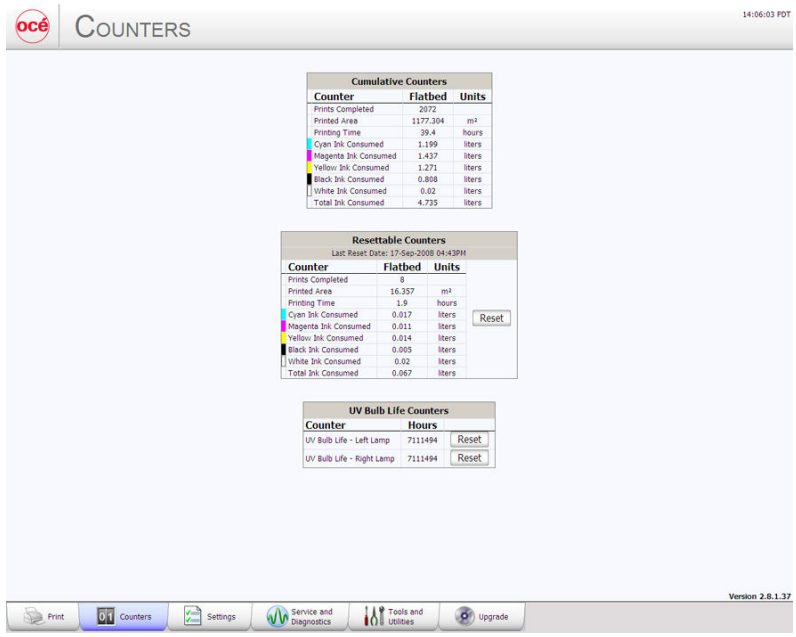
Period	Task
Daily	Clean carriage underside and perform printhead maintenance: (See the Maintenance section).
Weekly	Swab printheads, clean UV lamp filters, and check coolant levels (See the Maintenance section). You can change the day of the week and the time this reminder is displayed in the Settings Printer menu.
Monthly	Empty the waste ink tray.
Ink bag change	Bleed the ink filter for that color ink (See How to Change Ink Filters in the Maintenance section).
Yearly (or 22 liters of ink)	Replace and then bleed the ink filter for that color ink (See How to Change Ink Filters in the Maintenance section).
As needed	Refer to the Océ Arizona Printer Care and Use poster (download from the customer support web site: http://dgs.oce.com/.

Counters Module

Introduction

The Counters module displays counters that are of interest to the operator. It shows counters for each color of ink and the total ink used. It also shows the number of hours a UV lamp was used since last changed. Some of the counters can be reset.

Illustration



[50] Counters Module Screen

Component - function table

Counters Explained

Component	Function
Non-resettable Counters	These counters display a cumulative total of ink consumed or area printed over the whole life of the printer.
Resettable Counters	These counters display a cumulative total of ink consumed or area printed since the Reset button was last pressed. Time and date of last reset is displayed, if available.
UV Bulb Life	Displays the hours of lamp use since last reset. Always reset the count when you change a bulb.

Settings Module

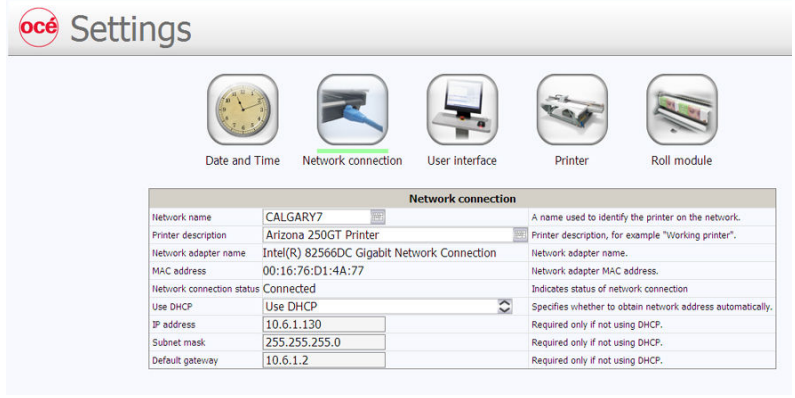
Introduction

The Settings Module allows you to review and change the date and time, network connection settings, user interface configurations, printer settings and, if installed, the Roll Media settings.

Date and Time Settings

[51] Date and Time

- Date - display only, cannot change the date
- Time - change the time of day, if required
- Whether Daylight Savings Time is set
- Time Zone - select the time zone for the printer location



[52] Network Connections

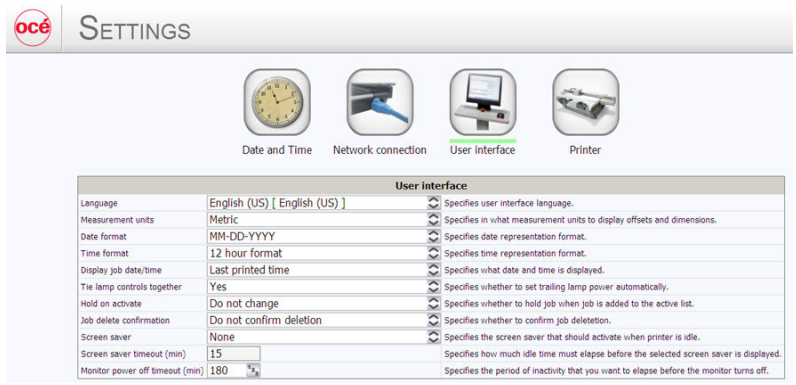
Network Connection Settings

Note:
Typically, DHCP is used to automatically obtain network settings. If "Use DHCP" is selected, the only thing you might want to change is the network name of the printer. The settings are displayed to troubleshoot possible network connection problems. One situation that would require changes is if your network does not use DHCP to automatically obtain network settings. In this case network settings have to be entered manually. If you don't know how to do this, bring in a network consultant to determine what the setting must be for the network (alternately, you can purchase a DHCP router for your network that will automatically supply the network settings).

- Network Name
- Printer Description
- Network Adapter Name
- MAC Address
- Network Status
- Use DHCP
- IP Address
- Subnet Mask
- Default Gateway

Note:
A network name for the printer cannot consist of numeric characters only - it must be a mix of alpha-numeric characters.
If the Printer name is changed, the printer must be restarted for the change to take effect. If any settings require a printer restart, a reminder will be displayed when that settings is selected.

User Interface Settings



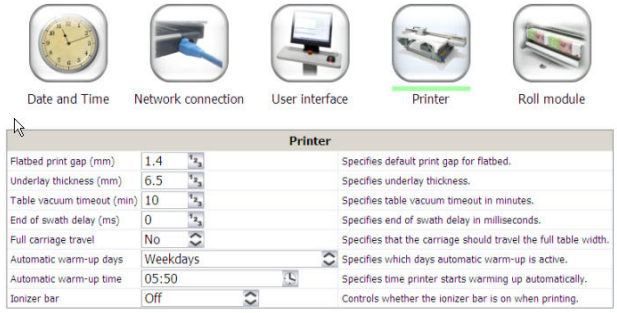
[53] User Interface Settings

Settings Available

The user interface allows you to change the following features:

- Language
- Measurement Units
- Date format
- Time format
- Display job/time
- Tie lamp controls together
- Hold on active
- Job delete confirmation
- Screen saver
- Screen saver timeout
- Monitor power off timeout

Printer Settings

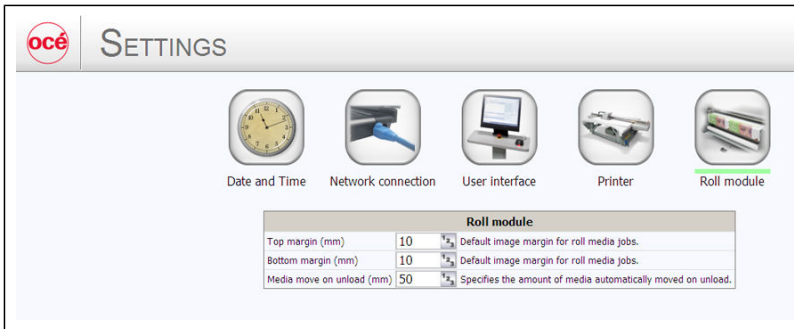


[54] Printer Settings

Allows you to set the following:

- Flatbed print gap
- Underlay thickness
- Table vacuum timeout
- End of swath delay
- Full carriage travel
- Automatic warmup day
- Automatic warmup time
- Ionizer bar (static suppression - On or Off)

Roll Module



[55] Roll Media Settings

Top Margin
Specifies the distance left unprinted above the image.

Bottom Margin
Specifies the distance left unprinted below the image.

Media Move on Unload
Specifies the amount of media moved on unload in the selected measurement units.

Note:
This setting icon is displayed only if the Roll Media Option is installed.

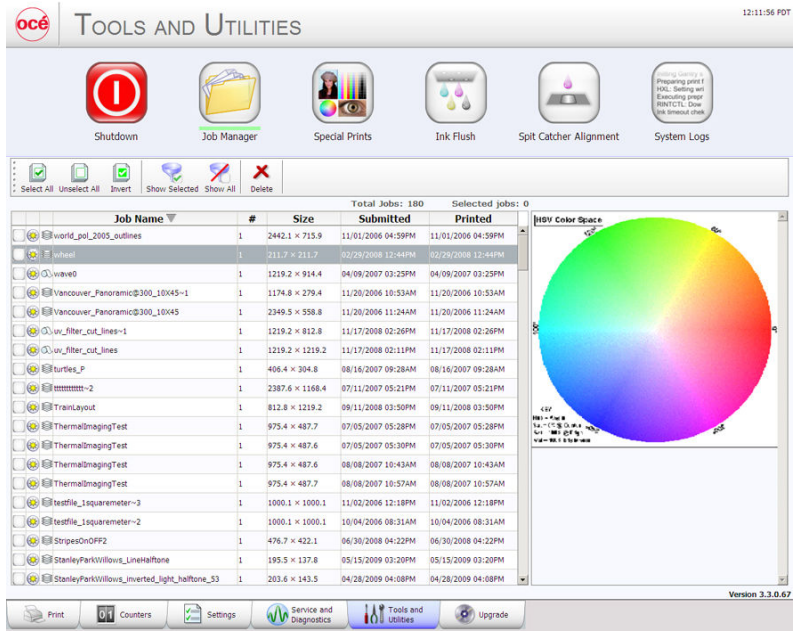
Tools and Utilities Module

Introduction

The Tools and Utilities Module has six sub-modules: Shutdown, Job Manager, Special Prints, Ink Flush, Spit Catcher Alignment, and the System Logs. When you click on the Tools and Utilities tab, Special Prints always appears first. Click on the other icons to access the sub-modules.

- **Shutdown** provides a clean way to properly power down the printer.
- **Job Manager** allows you to manage the view of print jobs.
- **Special Prints** provides special prints for various purposes, such as reference, adjustment and alignment etc. Some are for operator use and others are for service technician use only.
- **Ink Flush** clears the selected color ink line. This is used when you change to a different kind of Océ-approved ink and need to flush out all of the existing ink.
- **Spit Catcher Alignment** allows you to adjust the carriage position over the spit catcher after you install it.
- **System Logs** allows the operator to generate log files for service diagnostics and troubleshooting purposes.

Illustration



[56] Job Manager

Shutdown

Use the Shutdown icon when you need to turn the printer power off. The printer should be left powered On at all times but there are some exceptions such as some service procedures, or if the printer requires a reboot.

Job Manager

The Job Manager allows you to view a select range of print jobs or to delete many print jobs at the same time. In the Print Job module, you can only manipulate one print job at a time. In the Job Manager you can select multiple print jobs using the checkbox to the left of each job. Once you have your range selected you can then delete them. Click on the column heading to sort the display of print jobs by that criteria.

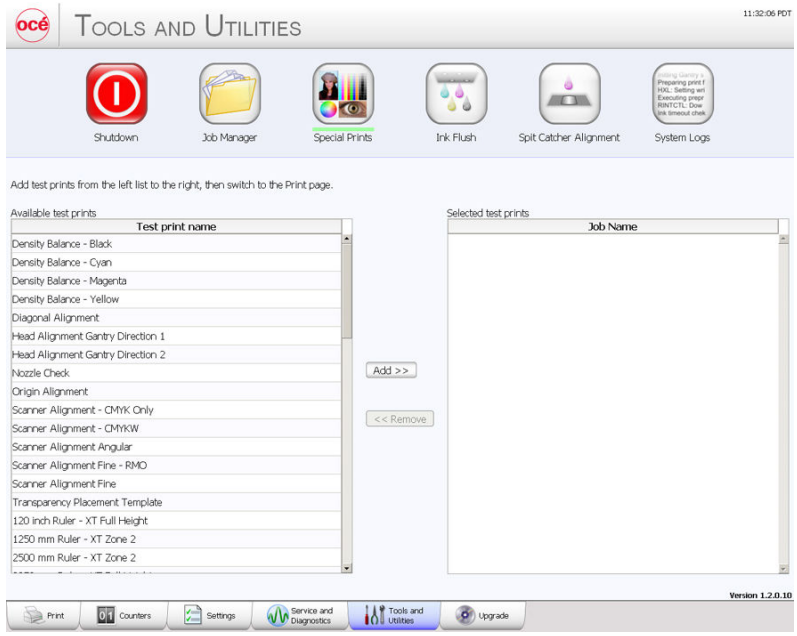
Special Prints

The Special Prints module displays two lists. The list on the left shows the available special prints. Some of these prints are used by service technicians to adjust and troubleshoot the printer. Some are of interest to the Operator: the Ship print, the table ruler prints, the Nozzle Check print, and the Media Advance Correction Factor print.

Special Prints of Interest to the Operator

- the **Reference print** is used to determine that the printer output meets quality standards. A ship print that is printed at the factory is shipped with each printer. It can be used as a comparison with one printed at the customer site.
- The **Table Rulers** are meant to be printed on the table to assist you to place media. These images are set up to print on the horizontal and vertical axes of the table. They are available in metric or imperial measure.
- The **Nozzle Check** is used to determine if there are any clogged nozzles that can affect print quality (note that it is also available on the command toolbar in the Print Job Control module).
- the **Media Advance Correction Factor** print (used for roll media only). This print is used to correct a certain type of banding related to incorrect media advance - see How to Determine Media Advance Correction.

The list on the right shows all active jobs that are currently in the print queue. Add a special print from the left into the right list to make it active in the Print Job Control module. If you remove a job from this list, it is also removed from the Active job list and is not available to print. Special print instances that are removed from the Active list do not go to the Inactive list; they are simply removed.



[57] Special Prints

How to Load a Special Print

1) Click a special print to select it in the left window.
2) Click the Add button to place it in the print queue on the right.
That special print is now available in the Active job list of the Print Job Control module.

How to Print a Special Print

Go to the Print Job Control module to actually print the special print. It will appear in the active job list and is printed like any other print job.

Note:
Refer to the sections that document the special prints for details on printing. For example, the Nozzle check and the Ship print are printed on I/O paper, while the Ruler Guide Print is printed directly on the table. Note that some of the special prints are meant for service technicians only and are not for use by the printer operator.

The Ink Flush Procedure

The Ink Flush Procedure is used when the printer is switched from one ink type to another. If you insert a new ink bag of a different ink type into the ink bay, the Ink Status screen will appear and prompt you to perform an Ink Flush Procedure. The Ink Flush Procedure will prompt you to perform either:
1) Short flush procedure - this is performed when switching to a compatible ink type; or
2) Full flush procedure - this is performed when switching to a an ink type that is not compatible with the current ink used. In this case an ink flush kit is required.

Note:
Contact your local service representative for information about this ink flush kit. Only inks certified by Océ can be used with your printer.

Spit Catcher Alignment Procedure

A Spit Catcher is necessary for all printers with the white ink option installed or for any printer that uses the Océ ICJ256 inks. The Spit Catcher consists of a slotted cover for the Maintenance Station drawer and a foam pad that is held in place under the drawer. Both the white ink and all of the IJC256 inks need to "spit" periodically to help keep the printhead nozzles clear of debris. The Alignment Procedure is needed when the Spit Catcher is first installed or if for some reason the park position of the carriage changes. The purpose of the alignment is to have the carriage parked directly over the slots in the spit catcher so that the ink that is spit falls though the slots and is soaked up by the foam pad below. If you see a buildup of ink on the surface of the spit catcher it may mean you need to follow the alignment procedure.

Note:
The foam pad must be changed if it becomes too saturated with ink. It is a commercial item so see your local representative for replacements.

System Logs

The System Logs are raw data log files for service diagnostics and troubleshooting purposes. They are meant for service technicians only. Generate system logs only when requested by an Océ service technician and follow the instructions they provide for retrieval of the files.

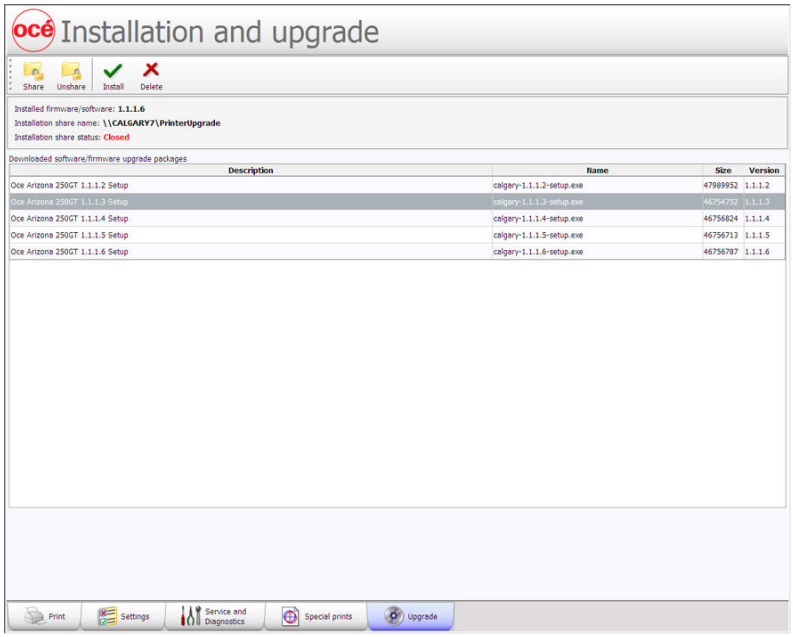
Note:
When System Logs are generated, any previously saved log files are deleted. Therefore, do not generate a second batch if you have just recently generated log files (unless requested to do so by a service technician).

Installation and Upgrade Module

Introduction

As we are committed to improve and refine the quality and functionality of the Océ Arizona 400 Series GT printer, there will be periodic upgrades to the underlying firmware and printer software. Software updates are available only to customers with a service contract. Your local service representative will either install the upgrade or provide you with the upgrade file in some circumstances.

Illustration



[58] Printer Upgrade Module

How to Upgrade the Firmware and Software

Your dealer or service representative will advise you when an upgrade of the printer software is necessary. If they request that you install the upgrade, instructions will be provided with the upgrade file.

Chapter 5
How to Operate Your Océ Arizona Printer

Training Requirements

Introduction

The operator must receive training for safety issues, printer operation, and the appropriate ONYX Workflow software (ProductionHouse® or THRIVE) prior to operating the printer.

Safety Training

Before operating the Océ Arizona 400 Series GT printer, make sure you have read and understood all of Chapter 3 "Safety Guidelines".

Océ Operator Training

For optimal safety and print quality, all printer operators must have received training by qualified Océ service personnel. Océ training provides a general orientation to printer safety and operating procedures. This User Manual is not a substitute for official training.

Onyx ProductionHouse Training

Maximum performance from the printer requires a properly trained operator. Océ trains the operator in the use of the printer hardware and software at installation. However, this is not a substitute for formal training.

Operators must be fully versed in the operation of ONYX Workflow software . For any operator unfamiliar with their operation, ONYX ProductionHouse® or THRIVE training is required. Training courses are available; contact your local representative for an ONYX-certified training program.

How to Power the Printer On and Off

Introduction

This section describes how to switch the printer On and Off. When the printer is switched On, the interface software is displayed on the LCD monitor that is located on the Operator Control Station. From there the operator can access and control the printer. We recommend that you leave the printer powered on at all times. However, if the printer is switched Off for extended periods, there are procedures to follow that are documented here.

Before you begin

Before you apply AC power to the printer, make sure that loose objects such as clothing, tools and cleaning materials are not interfering with the printer mechanisms. Position the power cord so that it does not pose a hazard when walking around or moving media or other objects near the printer. The printer has an AC power switch that turns the printer On or Off. The switch also functions as an AC power lock-out switch. It is located at the end of the printer, as seen below.

Note:
Some printer models may have a different type of AC power plug than what is shown in the photo. See the Site Preparation guide for a photo of the two types of power plugs.

Caution:
THE SOCKET OUTLET MUST BE INSTALLED NEAR THE EQUIPMENT AND BE EASILY ACCESSIBLE. Ensure that you follow the guidelines in the Site Preparation Guide before plugging the printer AC power plug into the socket.

Attention:
Unplug the AC power cord from the printer to completely isolate the electronics of the printer, especially when you move or service the printer.

How to Power ON

1. Ensure that the AC power plug is properly seated.
2. Turn on the AC power On/Off switch.
3. If it is not already on, turn on the power of the Control Station LCD monitor.

4. During the boot-up procedure, the printer software is automatically started. The software displays a splash screen followed by a screen that requests you to raise and then lower the carriage guard.
5. Lift the carriage guard slightly and then replace it. At the control station click on Continue to finish the startup procedure.

[59] AC Power Switch

6. The splash screen will show initialization messages and then the Print Job Control module screen appears. The initialization is complete when the top left panel of the display shows "Ready". Your printer is now ready for use.

Attention:

After powering the printer On, leave it running continuously, even when at idle. Failure to leave the printer powered on may result in ink draining out of the ink reservoirs. It may also result in damage to the printheads. Leave the printer powered On at all times, unless service to electrical components is required.

Note:

The printer is designed to be left powered ON at all times as only minimal power is consumed when the printer is idle.

How to Power Off

Attention:
To maintain optimal printer reliability, leave the power on at all times. However, there are exceptions such as for ink flushes, some service procedures, or if the printer requires a reboot.

If you need to shut down the printer for just a few minutes, follow this procedure. However, if you need to leave the printer idle for periods of 30 minutes to 14 days, see the table below.

1. Turn off the UV lamps.
2. Wait for the lamps to cool down (fans will stop).
3. Click on the Shutdown icon in the Tools and Utilities tab to exit the printer software.
4. Turn the AC power switch to the OFF position.
5. Turn the power back on when the service or procedure is complete.

Note:
Avoid Extended Power Off
If the power is switched off for only a short period (for example, when the printer is shut down and then immediately restarted to correct an electrical problem or other troubleshooting), no special action is required at startup. However, if it is necessary to leave the printer idle for an extended period refer to the table below. Also, perform Printhead Maintenance and Swab the printheads when you start to use it again. We recommend that you leave the printer powered On at all times except for maintenance or repair.

How to Prepare the Printer for Idle Periods:

Attention:
Do not turn off the printer during these idle times.

15 to 30 minutes	■ Turn off lamps
30 minutes to 24 hours	■ Turn off lamps ■ Turn off ink heater

24 to 72 hours	■ Turn off lamps ■ Perform printhead maintenance when the ink temperature is at least 40° Centigrade (104° Fahrenheit) ■ Swab print heads ■ Turn off ink heater ■ If the Automatic printer warm-up was set in Printer Settings, turn it off
3 to 14 days	■ Turn off lamps ■ Perform printhead maintenance when the ink temperature is at least 40° Centigrade (104° Fahrenheit) ■ Swab printheads ■ Turn off ink heater ■ If the Automatic printer warm-up was set in Printer Settings, turn it off ■ Remove or rewind any media from the RMO
Longer than 14 days	■ Contact your local service representative if you need to prepare the printer for longer term storage

How to Lock Out the Power Switch

Attention:
Some service procedures require locking out the On/Off switch to ensure operator safety. When the switch is locked out, it is impossible to supply power to the printer.

1. Refer to the Shutdown procedure "How to Power Off", at the beginning of this section.
2. Turn the AC power switch to the Off position.
3. Apply a lock and a tag-out label to the Lock-out area of the switch for the duration of any service or maintenance procedures.
4. Perform service procedure (generally this is done by a service technician)
5. When maintenance or service is complete, remove the lock and tag-out label and turn the AC power switch to the On position.

Illustration

[60] AC Power Switch and Lockout

How to Use the Disconnect Device

Attention:
The AC power plug is the main disconnect device for the printer. For maximum safety, if the printer is moved, the AC power plug must first be unplugged from the printer.

1. Follow the Lock-out procedure above.
2. For additional safety, also disconnect the AC power plug from the wall outlet.
3. When the printer is successfully moved or the repair work is complete, re-connect the power plug and unlock the AC power switch.

How to Install the ONYX Printer Driver

Introduction

This section explains how to install and configure the ONYX ProductionHouse or PosterShop installation files for the Océ Arizona 400 Series GT and Océ Arizona 400 Series XT printers.

Purpose

The printer installation file configures the ONYX software so that it knows how to communicate with the Océ Arizona 400 Series GT. This prepares the printer so that the operator can manage print jobs.

Before you begin

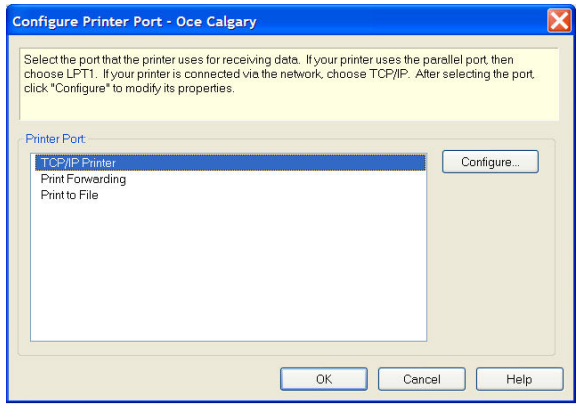
Make sure that the ONYX application software is installed before you install the printer driver.

Note:
The ONYX Printer Installation Driver File can be installed as the final step in the installation of the ONYX ProductionHouse or PostShop software application or it can be downloaded separately and installed later. However, it must be available for the software to communicate with the printer.

Installation Procedure

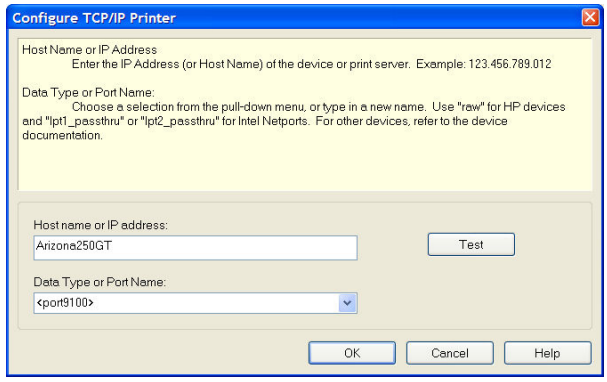
1. Power on the printer.
2. Select the Setup tab in the printer software to access the printer's network name.
3. Verify that there is an Ethernet network connection between the ONYX host computer and the printer. To do this click on the Windows Start button the select My Computer, My Network Places and ensure that the network name for the Océ Arizona 400 Series GT is on the list.
4. Install the Printer Installation File on the ONYX host computer (if you have not already done this during the installation of the software). To install, click Start, All Programs, then ProductionHouse or PosterShop and select Add Printer.
5. Select the media to be installed and continue with the installation.

6. After the printer driver is installed the Configure Printer Port window will launch automatically. Select **TCP/IP Printer** then click on **Configure**.



[61] Configure Printer Port

7. Enter the Network name of the printer (as displayed in Step 3) and make sure <Port 9100> is selected for the port.



[62] Configure Printer Host Name

Note:
If you have more than one printer, each printer must have a unique network name. The network name can be changed in the Settings module of the printer User Interface.

Check Configuration

1. Click on Test to verify that the computer and printer are in communication.
If the Test was successful, a verification message is displayed to indicate a Valid IP address was found.

Correction

1. If no valid IP address is found, check that the network name of the printer is correct and that port 9100 was selected.
2. Run the Test again.

Result

When a Valid IP address for the printer is verified, click on OK to complete the configuration of the communication link between ProductionHouse and the Océ Arizona 400 Series GT printer.

How to Manage Print Jobs

Daily Start-up and Shut-down

Introduction

Keep your printer clean and perform all recommended scheduled maintenance to ensure that the printer is ready to produce optimal quality images.

When to do

The start-up procedure must be performed every morning or after a period of time when the printer has not been used. The shut-down procedure indicated here is for the end of a regular workday. If the printer is shut down for longer periods of time than a few days, then there are more considerations, as documented in the previous section on How to Switch the Printer Off (see the note on Extended Power Off).

Start-up Procedure

1. Turn on the ink heater (click on the Ink Temperature Control icon located on the Command Toolbar of the Job Control screen).
2. Clean the carriage underside.
3. Perform Printhead Maintenance after the ink temperature has reached at least 40° C (104° F).

Note:
Refer to the Maintenance chapter for details on how to perform these procedures.

Shut-down Procedure

1. Turn off the UV lamps (click on the lamp icon located on the Command Toolbar of the Job Control screen).
2. Turn off the table vacuum.
3. If it is the end of the work week, swab the printheads.
4. Turn off the ink heater (click on the Ink Temperature Control icon located on the Command Toolbar of the Job Control screen).
5. Do not power off the printer (unless the printer will not used for more than 14 days - in that case call your service representative).

How to Set Up a Print Job

Introduction

This section explains how to select an image to print on your printer. The basic steps are outlined here and explained below. More detailed explanations for some of these steps are available in Chapter 4 "How to Navigate the User Interface".

- Prepare A Digital Image Using ONYX Workflow Software (ProductionHouse or THRIVE)
- Print The Job From ONYX Workflow To The printer
- Perform Printhead Maintenance (If first print of the day)
- Select Job To Be Printed and Check Print Parameters
- Measure Media Thickness
- Select Print Icon, select Print Mode, and Confirm Media Thickness
- Prepare Media for Printing
  Place And Register Media On The Printer Vacuum Table
  Select Active Print Zones
  Mask Active Vacuum Zones Not Covered With Media
  Turn On Table Vacuum
  Clean Media, if required
- Check the table to make sure that there are no obstacles that can interfere with the travel of the gantry or carriage
  Start the Print

Prepare a Digital Image with ProductionHouse or Postershop

Operator must be trained to use ProductionHouse or THRIVE. Training is provided by ONYX.

Print The Job From Onyx ProductionHouse

When the job is sent from the ONYX software, the job transmission progress is indicated in the lower right corner of the User Interface display. After the transmission has completed it will appear in the list of Active print jobs in the Job Control Module.

Perform Printhead Maintenance (if this is the first print of the day)

Refer to the Maintenance section in this manual for details. This must be done at the beginning of the work day or when image quality problems, such as banding, appears.

Measure Media Thickness

Use a digital slide caliper or micrometer to accurately measure the media thickness of the media. An error in measurement of media thickness will affect bi-directional alignment and can contribute to the amount of graininess in the printed image or cause a carriage/printhead crash with the media.

Set the Printer to Flatbed

Select the Flatbed button on the toolbar to prepare the printer. This is required only when the printer is initially started, or if it is reset due to an error condition.

Select Job To Be Printed, Check Print Parameters And Verify Media Thickness

Click on the job to be printed from the active job list to select it. After it is selected the parameters on the job information and parameters panel will be displayed and may be modified if desired. Refer to the section Graphical User Interface Display for details on what is displayed and how to modify the job information.

Select Print Icon, Print Mode, and Confirm Media Thickness

When you select the Print toolbar icon it will gray-out the icon and the hand icon to the left of the job to be printed will turn green.
When printing Flatbed mode and Flatbed icon on the command toolbar is not selected, select it. Similarly, if printing in roll mode and the Roll icon is not selected select it.
The print job's icon should change to red/orange, and also the Pause icon and Confirm thickness buttons should appear in the command toolbar right beside Media thickness field.
Enter the measured media thickness value in indicated measurement units.
Select the 'Confirm thickness' button.

Prepare Media for Printing

Place And Register Media On The Printer Vacuum Table

Place the media on the table in the orientation that matches the job to printed and register the media to the print origin. In the next section there are more details on how to perform the following actions.

Select Active Vacuum Zones

Select the required vacuum zones to hold the media to the table using the table vacuum. The three vacuum zone control handles control which of the three zones on the printer

table will have vacuum applied when the table vacuum pump is turned on. The vacuum zones are opened or closed using a quarter turn handle. Refer to the next section for details on the dimensions and placement of the vacuum zones.

Turn On Table Vacuum

Click on the Vacuum button in the top right corner of the printer software display to activate the table vacuum. Also a vacuum foot pedal switch is provided to help secure the media on the table vacuum. Step on the foot pedal to toggle the table vacuum on or off.

Mask Active Vacuum Zones Not Covered With Media
To hold the media to the table it is important to completely cover active vacuum zones with either the media to be printed on, or a masking material. The masking material should not be thicker than the media to be printed on. If a full bleed image is to be printed, the masking material should be the same thickness as the media to be printed on to prevent overspray from accumulating on the print head nozzle plates.

Note:
When the vacuum is switched off, wait a few seconds before you switch it on again.

Clean Media, If Required

If the media is dusty or dirty, clean it with an appropriate cleaner. If using a liquid like isopropyl alcohol, allow sufficient time to dry prior to imaging.

Start Print

The Print button is located at the corner of the table where media is loaded. Press the Print button to start the print job. If the job was selected, the media thickness confirmed and the vacuum is turned on, printing will start after the ink and lamps reach operating temperature.

Note:
When the ink is at a low room temperature it may take up to 20 minutes for it to warm up to operating temperature. The printer will not print until the ink warms up. Also, when the printer is idle it will maintain the ink at operating temperature for two hours.
Note: The image is printed towards the print origin instead of away from it (i.e., the last data line to be printed is the line at the print origin). The reason the image is printed in this direction is to allow the gantry to lead the image in the print direction so it does not block the image when it starts printing. Also it reduces the time it takes for the gantry to start the print.

How to Manage the Media Vacuum

The Table Vacuum System

Introduction

Your printer uses a low-flow, high-pressure vacuum system to secure media for printing on the printer table. A vacuum pump is used to evacuate the air between the overlay and the table. Air-feed ports in the table surface connect to the vacuum pump through a series of manually operated flow valves. These valves are used to activate or shut down the vacuum zones. In order for the system to work effectively, during printing all the circular holes on the top surface of the overlay sheet connected to an active vacuum zone must be covered. This creates a closed vacuum system.

The printer is shipped from the factory configured with six vacuum zones. Zone 1 is always on and zones 2 to 6 can be open or closed, based on the position of the zone control handles. The printer is ordered with your choice of vacuum zone configurations, either Metric or Imperial units. These zones are set up to support common media sizes.

Illustration

[63] Vacuum Zone Control Handles

[64] Closing vacuum zone 4

Vacuum Zone Control Handles

The control handles determine the state of the vacuum zones. When the handle is vertical, the zone is open and creates a vacuum in the related area. To close a zone, turn the control handle a quarter turn clockwise to the horizontal position.

Masking the Vacuum Table

If your media does not cover all of a vacuum zone you must mask the area around the media to create a closed vacuum system. Use scrap media or material that is equal to or less than the thickness of the media to mask the table. You can tell when the vacuum is sealed by the sound it makes and also by the vacuum gauge, which must read at least 20 "Hg.

Vacuum Table Foot Pedal

The vacuum foot pedal toggles the table vacuum on or off. It helps the operator to secure the media on the vacuum table since it allows hands-free operation. The vacuum must be turned on prior to starting a print, and the vacuum cannot be turned off until a print is completed.

Vacuum Gauge

The vacuum gauge is located on the table. It provides a visual representation of the actual pressure in the vacuum table system.

Note:
Use the vacuum gauge to determine if a zone is properly masked. When the active zone is properly masked the gauge will read at 20"Hg (68 kPa) or higher. Small leaks can reduce this number and therefore the efficiency of the vacuum. Porous media can also degrade the vacuum effect.
If the vacuum gauge for an active zone reads below 10"Hg (34 kPa) and you have ensured that the area is properly masked and taped off, you may have a leak in the vacuum system. Place a service call only if you determine that the zone is correctly masked and the gauge reads consistently low.

How to Maintain the Vacuum Overlay Sheet

If ink build-up occurs on the overlay sheet, remove the ink. If it is not removed, the print gap can be affected and this may affect the vacuum table's ability to secure the media properly. To remove ink we recommend that you use a paint scraper containing a straight edge razor blade (these can be found at a local hardware store). Refer to the Maintenance section for more detailed instructions.

Using Vacuum Zones

Introduction

The overlay sheet on the printer table creates a vacuum field, which is divided into zones by magnetic strips on the underside. When the printer is shipped, the vacuum zones are configured to support common metric media sizes . The zones described here are both in Metric or Imperial dimensions, according to operator preference when the printer is ordered. The purpose of the vacuum zones is to reduce the preprint setup time by reducing the need to mask the open area on the vacuum table when printing on the most common size media. The printer ships with a vacuum field configured to support either metric or imperial size media.

For the Océ Arizona 400 Series GT vacuum control valve handles are used to manage these zones. The printer has five control valves that determine the zones that are active when the table vacuum pump is on. Zone 1 area is always active, and the five valves control zones 2 through 6. The vacuum zones are open when the valve handles are vertical.

Note:
The Océ Arizona 400 Series XT vacuum zones are described in Chapter 6.

Purpose

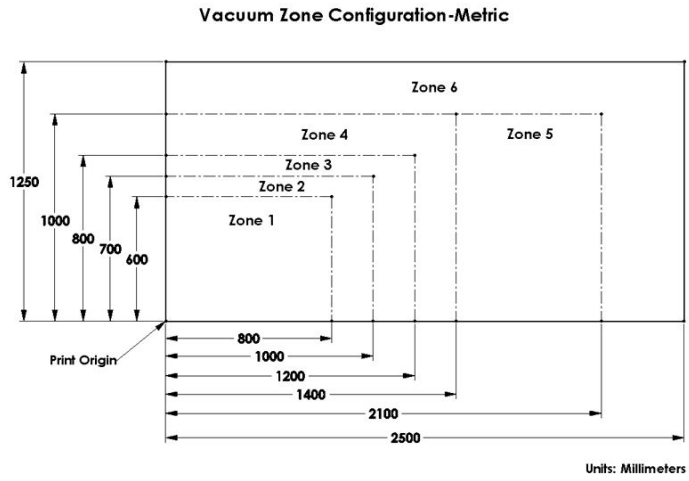
The vacuum system holds the media in place. The zones described in this section are arranged to accommodate common media dimensions.

Metric Vacuum Zones

The following shows the locations and media dimensions associated with the factory-set metric vacuum zones. The name of the zone indicates which vacuum handle controls that zone.

1. Vacuum zone 1 = 600 x 800 mm
2. Vacuum zone 2 = 700 x 1000 mm
3. Vacuum zone 3 = 800 x 1200 mm
4. Vacuum zone 4 = 1000 x 1400 mm
5. Vacuum zone 5 = 1000 x 2100mm
6. Vacuum zone 6 = 1250 x 2500mm

The metric configuration is designed such that zone 6 can be reconfigured by a service representative from the 2.5m x 1.25m area size to 4'x8'.



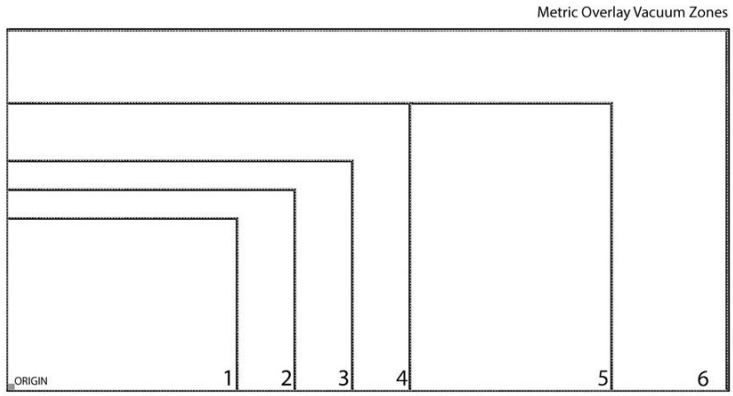
[65] Metric Vacuum Zones

Print Metric Zone Map

A map of the vacuum zone can be printed on the table to help with the position of media over the zones. A default map is provided, but you can also create your own map, if desired.

1. Select the Special Prints tab in the printer software.
2. Scroll to Vacuum Zones Metric - GT and add it to the print job list.

3. With no media present, print the zone map directly onto the printer table.



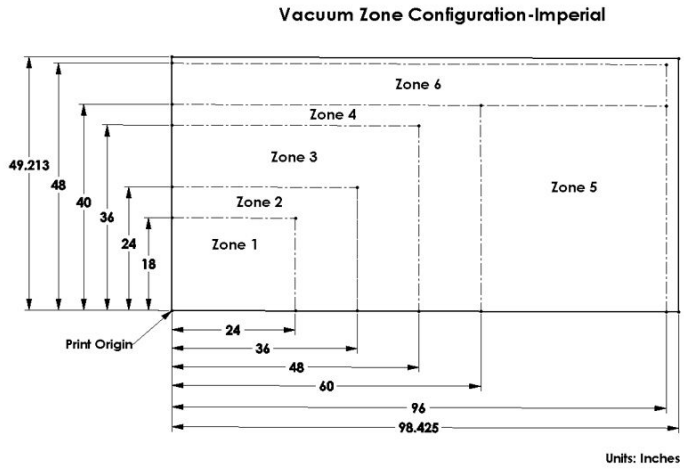
[66] Vacuum Zones Metric - GT

Imperial Vacuum Zones

The following shows the media dimensions that are available with the recommended Imperial vacuum zones. The name of the zone indicates which vacuum handle controls that zone.

1. Vacuum zone 1 = 18 x 24 inches
2. Vacuum zone 2 = 24 x 36 inches
3. Vacuum zone 3 = 36 x 48 inches
4. Vacuum zone 4 = 40 x 60 inches
5. Vacuum zone 5 = 40 x 96 inches
6. Vacuum zone 6 = 48 x 96 or 49.2 x 98.4 inches
   The maximum supported media size for the imperial version of the vacuum table is 48 inches x 96 inches. However, the imperial design can provide an additional boundary at 49.2 x 98.4 inches, the maximum supported media size for the product. Shipped from the factory, the area between these two boundaries would be inactive. However, if necessary

the maximum supported size could be increased by a service representative. This allows media to reach the 49.2 x 98.4 inches boundary.



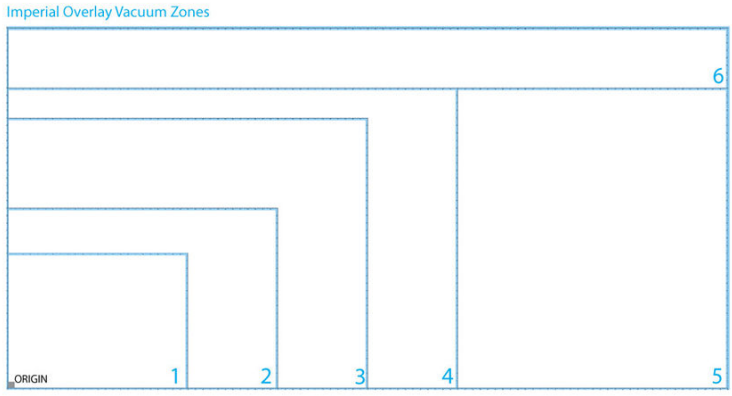
[67] Imperial Vacuum Zones

Print Imperial Zone Map

A map of the vacuum zone can be printed on the table to help with the position of media over the zones. A default map is provided, but you can also create your own map, if desired.

1. Select the Special Prints tab in the printer software.
2. Scroll to Vacuum Zones Imperial - GT and add it to the print job list.

3. With no media present, print the zone map directly onto the printer table.



[68] Vacuum Zones Imperial - GT

How to Manage Media

How to Handle Media

Introduction

Océ Display Graphics Systems has conducted extensive testing of many media. Since the Océ Arizona 400 Series GT printer is capable of imaging on a wide range of material, we encourage you to explore various media so that you can establish your own criteria for achieving high quality images in your work environment.

Use ICC profiles to control ink density and to help achieve consistent color. If an ICC profile is not available for a particular media and it is not possible or convenient to create one specifically for that media, select an ICC profile for another media that is similar in composition and color and the results will very likely be acceptable. Profiles are much less media-dependant for UV ink printers like the Océ Arizona 400 Series GT than for solvent-based printers. For access to Onyx ProductionHouse profiles, please consult our web site at: http://dgs.oce.com/

Definition

The term media covers a wide range of possible materials for the Océ Arizona 400 Series GT printer. Essentially, any material that is less than 45mm (1.9 inches) thick, and less than the maximum size of 1.25m wide x 2.5m long (49.2 in x 98.4 in), can be considered viable media. Some materials will hold the ink better than others, so we encourage you to experiment with media to determine what works best for your purpose.

Attention:
When printing on reflective media, we advise that you monitor the nozzle check and printhead nozzle plates. Perform additional printhead maintenance, if required, to prevent ink from partially curing/gelling on the printhead nozzle plates.

How to Handle, Store, and Clean Media

See material-specific documentation for recommended handling and storage requirements. General material storage and handling suggestions follow:

- Store media in a dry environment avoiding high temperature, high humidity, or direct sunlight. The size of the material can change according to the temperature and/or

humidity changes of the working environment. Ideally, store media in the same environmental conditions as it will be used.

- Store media flat to reduce tendency to bow. Do not use creased, damaged, torn, curled, or warped material.
- Do not leave material loaded in the printer for an extended period of time. The material may curl resulting in misalignment, jams, or decreased printing quality.
- Some material has a printable side and a non-printable side. If you print on a non-printable side, adhesion and color may be affected.
- Handle media with lint-free gloves. Oil deposits from fingers will degrade print quality. Do not touch the printable side of material.
- Media must be free of lint, dust, oil or other debris. Use techniques and solutions that are appropriate to the manufacturer's recommendations.
- Use a tack cloth to clean media as it will reduce static buildup. Press lightly when you use a tack cloth to prevent residue deposit on the media.

Note:
Dirty media can affect image quality and reliability of printer output. If you wipe the media with a tack cloth before printing, it will reduce ink buildup on the carriage underside. The tack cloth removes static and also removes particles that tend to attract stray ink drops that result in ink buildup. Tack cloths are used by auto-body shops to clean cars before painting. Océ does not provide additional tack cloths beyond what is in the Accessory kit. If you did not receive a cloth or if you wish to purchase additional tack cloths, they are available at local hardware or auto-oriented stores.

Carriage Collision Recovery

If something on the table is higher than the media (or if the media is thicker than what is actually set in the print job settings), a carriage collision may occur. If a collision occurs, the carriage will stop and display a message on the User Interface panel. After the operator clears the offending media from the table and before the next print is started, printhead maintenance must be performed (See Printer Maintenance section).

How to Handle Media with Uncured Ink

If the UV ink is not properly cured, wear nitrile gloves when you handle prints. To help ensure that the ink cures fully, set the UV lamp power as high as possible for the particular media you are using. This will minimize the risk of skin irritation and sensitization from possible exposure to uncured ink.

Media Adhesion

Some media have better adhesion quality than others. Factors such as the amount of ink used and the amount of curing energy from the UV lamps can affect adhesion.
For more information on media adhesion, see Application Bulletin 6 on the customer support web site.

Media-Related Application Bulletins

For additional information on various aspects of handling and managing media refer to the Customer Support web site. See Appendix A of this document for a list of available bulletins or visit the web site to download bulletins:
http://dgs.oce.com/

Thermal Expansion of Media

When imaging on media that will expand when subjected to heat (e.g., styrene or Plexiglas, etc.), don't wedge the media by butting other material against it as this may cause the media to buckle. Also if multiple pieces of the media are used, allow enough space between the pieces to allow for thermal expansion. Placing tape on the table prior to laying down the media will prevent ink from being imaged onto the table. Finally, if you overprint on media that expands when heat is applied, we recommend that you group the desired image with a preceding image so the printer is a consistent temperature when starting to print the desired image.

Thermal Deformation of Media

Some heat-sensitive media may deform when subjected to high heat. If this occurs you can reduce the lamp power from the default setting of 7 to find a compromise level that allows the ink to cure but does not warp the media. You can also try to print uni-directional using only the trailing lamp (to do this set the power of the leading lamp to 0).

Media Registration

Media can be registered on the table using the **table rulers**. These rulers are printed on the table and provide a horizontal and vertical rule that originate from the 0,0 print origin point on the table. The rulers can also help to provide offset distances if you need to start a print away from the origin point.

Alternately, the **media registration cards** can be used to register media if it must be placed consistently away from the table rulers. These PVC adhesive-backed card can be placed anywhere on the table to set new coordinates for print origin to enable consistent registration of media in that location. Make sure that you set the offsets to match the lo-

cation of the cards. Note: these cards can be stacked, but if more than two of them are stacked, the carriage will collide with them if you print at zero media height. Always check the height if you use multiple stacked cards so that they match the height of your media and the set the carriage height accordingly.

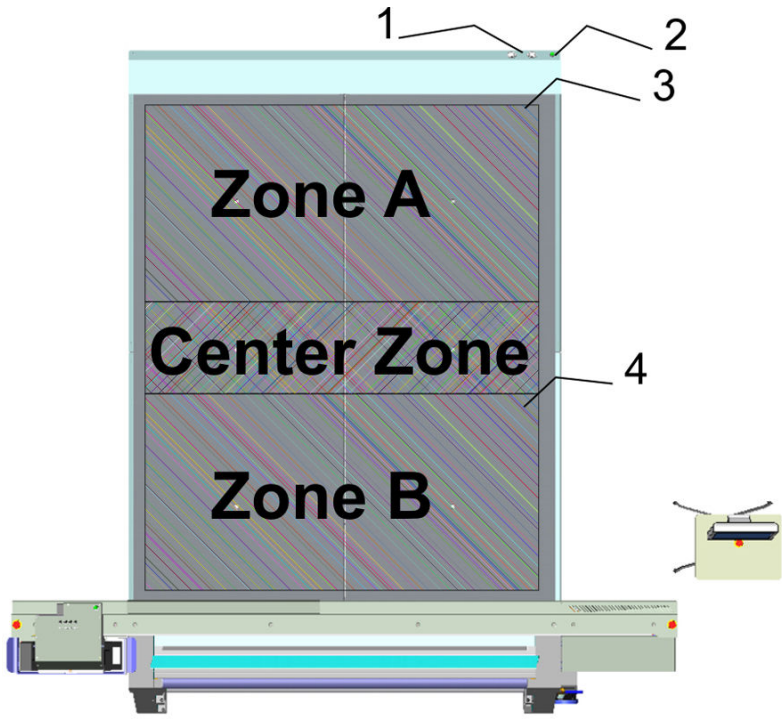
Chapter 6
How to Operate the Océ Arizona 400 Series XT

*Océ Arizona 400 Series XT Features

Introduction

The Océ Arizona 400 Series XT is the same as the Océ Arizona 400 Series GT in the following areas: Gantry, Carriage, RMO capable, and White Ink option.

The Océ Arizona 400 Series XT printer has a larger table and two vacuum pumps. These pumps provide vacuum for the vacuum zones. Any unique features of the Océ Arizona 400 Series XT are documented in this chapter. All other features and specifications (other than print sizes) are the same as those for the Océ Arizona 400 Series GT.



[69] XT Printer Hardware

XT Hardware Legend

Label	Hardware Description
1	Vacuum Gauges for A and B Zones
2	Print Start Button
3	Print Origin for A Zones
4	Print Origin for B Zones

Note:
The Center Zone is referred to as Zone C.

Definition

The Océ Arizona 400 Series XT is a flatbed inkjet printer capable of producing large format images on various rigid and flexible media. The printer consists of a flatbed vacuum table and moving gantry. It can also be used with a Roll Media Option.

Media Support

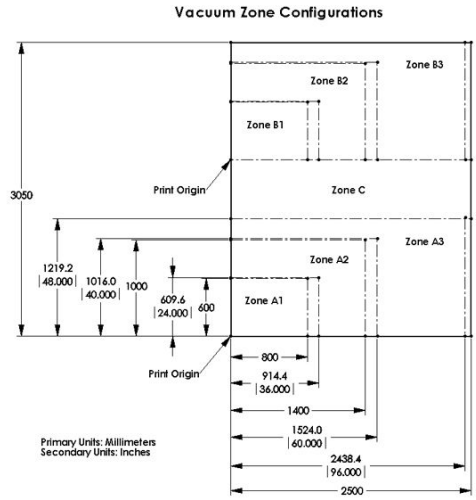
The Océ Arizona 400 Series XT printer supports media up to 2.50m x 3.05m (8.2 x 10 feet) in size with a 5mm (0.2") bleed on all edges. It can also print on alternating 2-up media that is 1.25m x 2.5m (4'x8') in size.

How to Use the Océ Arizona 400 Series XT Vacuum System

Introduction

The Océ Arizona 400 Series XT uses a vacuum system to secure rigid media for printing on the printer table. Two independent vacuum pumps provide vacuum to the table, which is divided into multiple vacuum zones. Pump 1 provides vacuum to the A Zones and the Center Zone. The operator can control vacuum flow to the Center Zone with the manual On/Off valve. Pump 2 provides vacuum to the B Zones. All XT printers are shipped with metric vacuum zones. It is possible to change the configuration from metric to imperial in the field by a qualified service technician (the technician who installats your printer can do this, if needed).

The independent control of the zones allows the operator to print in a Dual Origin mode with minimal down time.



[70] XT Vacuum Zones

There are three A zones and three B zones as indicated in the illustration. These zones are controlled by five vacuum handles. Zones B1 and A1 are always on when the vacuum is activated. Zones A2, A3 and B2, B3 are controlled by the position of the two left and two right vacuum handles. The Center zone is controlled by the middle vacuum handle. It determines if the C zone is On or Off when the vacuum is active.

Purpose

The vacuum system holds the media in place on the printer table. The zones are arranged to accommodate common media dimensions. If a zone is activated, you must mask off any part of it that is not covered by the media.

Note:
An active zone that is properly sealed will read 20" Hg or higher on the vacuum gauge. If the vacuum gauge for an active zone reads below 10"Hg (34 kPa) and you have ensured that the area is properly masked and taped off, you may have a leak in the vacuum system. However, keep in mind that lower vacuum levels will be seen when the media is porous. Place a service call only after you determine that the zone is correctly masked and the gauge reads consistently low.

How to Use the Zones

1. Place media on the table.

Note:
To place media at the Print Origin for the B Zone requires an offset at 1830mm (this must be set either in the ONYX software or the Print Job screen and can be entered in millimeters, even when the interface is set to Imperial units).

2. Mask off any areas of the active vacuum zone(s) that will not be occupied by the media.

Note:
The media can occupy more than one zone, but if a zone will be active, all of the area not covered by the media must be masked so that all vacuum holes are covered.
If the Center Zone is not occupied by media it can be turned Off with the manual valve located at the Zone 1 end of the printer.

3. Activate the zones you wish to use either with the icon on the command bar of the Print Job module or with the matched foot switch (A or B) on the floor.
4. Start the print job either with the Start icon on the command bar or with the Print Start button located near the vacuum gauges.
5. De-activate the zones with either the icon or the foot switch once the image is printed.
6. Remove the media.

How to Print With Dual Origins

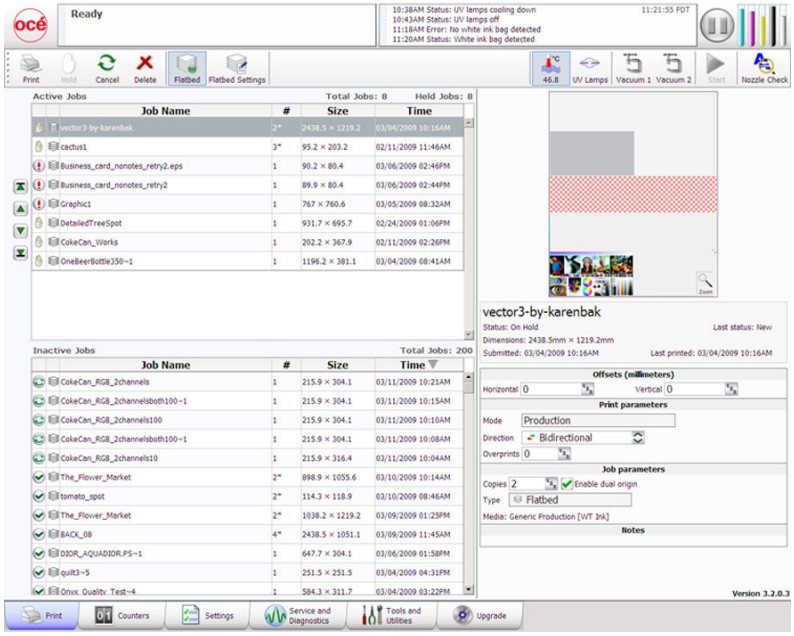
Introduction

Due to the larger table size and the vacuum zone arrangement of the Océ Arizona 400 Series XT printer, it is possible to print in an alternating 2-up arrangement with panels up to 1.25 x 2.5 meters (4 x 8 feet) in size.

Purpose

Dual Origin is used to print more than one copy of a specific print job on media not larger than 1.25 x 2.5 meters (4 x 8 feet). This allows greater productivity when printing multiple panels.

Illustration



[71] Dual Origin Print

Dual Origin Print Jobs

If the dimensions of your image are not greater than 1.25 x 2.5 meters (4 x 8 feet), the option to select Dual Origin will appear on the Print parameters menu.

1. Add your image to the active print job queue and then select it.

2. Enter 2 or more copies in the Job Parameters Copies field.
3. Click on the Enable Dual Origin box when it appears to make it active.

Note:
When Dual origins is enabled, a scaled view of the image appears on the screen preview in Zone A and a gray-scale box that represents the image appears in Zone B. Both images are displayed at their respective origin points. If you move the primary image in Zone A to a new origin (or enter new offsets), both images will then print from that changed relative origin point.

4. Place media in Zone A, mask off any unused areas, and then turn On the vacuum.
5. Press the Start button to begin the print in Zone A.
6. Place media in Zone B, mask off any unused areas, and turn On the vacuum. The printer will pause over the Center Zone after the Zone A print is complete and then start to print in Zone B.

Note:
The printer will not print in Zone B if the vacuum is not On. It will display "Waiting for Table Vacuum" and wait in the Center Zone until the vacuum is On and then will also require that you press the Start button. The vacuum must be cycled Off and then On again in alternating zones before the next print will begin while Dual Origin is enabled.

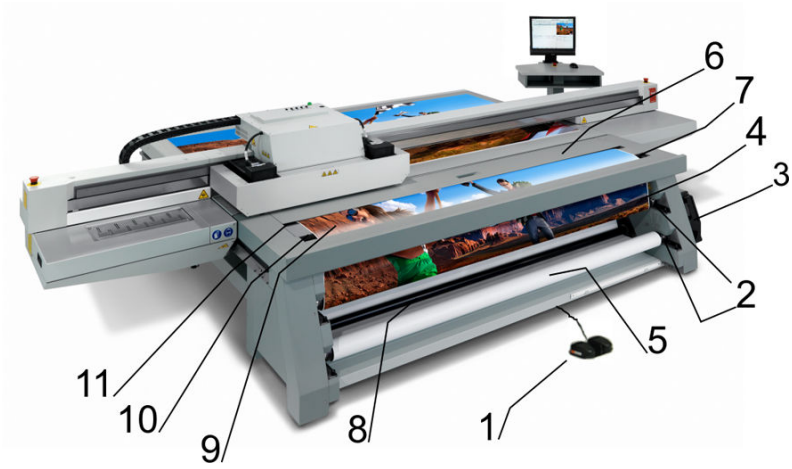
7. If additional copies of the print were indicated in Step 2, then repeat Steps 5 to 7 (in alternate zones) for the total number of prints required.

Chapter 7
How to Operate the Roll Media Option

Roll Media Option Hardware

Introduction

The Roll Media Option (RMO) allows printing on media that is supplied on a roll.



[72] Roll Media Option Components

Component Locations

Roll Media Hardware

Component	Function
1) Dual Foot Pedal Switches	6) Media Access Door
2) Media Drive Couplers	7) Media Cut Guide
3) Accessory Holder	8) Media Tension Bar
4) Take-up Media Shaft	9) Vacuum Platen
5) Supply Media Shaft	10) Gimbal
	11) Capstan

Hardware Function table

The Roll Media Option consists of a supply media drive, media tension bar, capstan roller, vacuum platen, media gimbal, and a take-up media drive. This system accurately advances the roll of media during printing. The roll media is positioned with a high resolution media encoder. This ensures accurate and high quality prints on various core media.

Roll Media Hardware

Component	Function
1) Dual Foot Pedal Switches	The dual foot pedal switches areused to control media feed in both forward and reverse directions. Function varies depending on whether media is loaded or unloaded.
2) Media Drive Couplers	The couplers keep the media shafts in place and engaged to the drive motor. In the open (horizontal) position they allow the media shafts to be removed.
3) Accessory Holder	Convenient storage for tape, cutting blade and 5mm hex key tool.
4) Take-up Media Shaft	Supports the take-up media roll.
5) Supply Media Shaft	Supports the supply media roll.
6) Media Access Door	Provides access to the supply media for media loading.
7) Media Cut Guide	Allows easy cutting of the media.
8) Media Tension Bar	Provides tension to ensure steady movement of the media.
9) Vacuum Platen	Holds the roll media in place while an image is printed.
10) Gimbal	Maintains alignment of the media on the take-up shaft.
11) Capstan	Determines the location of the media for printing and provides steady movement of the media. *Note:* The capstan must always be clean and smooth. Clean any kind of debris that might collect on it, especially UV inks (See RMO Maintenance section for cleaning instructions).

Roll Media Option Specifications

Introduction

The Roll Media Option available for the Océ Arizona 400 Series GT and Océ Arizona 400 Series XT printers allows the use of various flexible media that are supplied on a roll. Specifications associated with the use of roll media are indicated in this section.

Note:
The Océ Arizona 400 Series GT and the Roll Media Option must be operated in accordance with the environmental conditions specified in the Océ Arizona 400 Series GT Site Preparation Guide and all safety requirements noted in this document.

Media Size Supported

Width (Max.): 2.2m (86.6")
Width (Min.): 0.9m (36")
Roll Diameter (Max.): 240mm (9.45”)
Core Inner Diameter: 76.2mm (3”)
Weight: up to 50kg (110lbs)

Print Size Supported

2.190m (86.2”)

This allows for a minimum 5mm (0.2”) border. This is necessary to ensure the platen is not contaminated with ink due to possible media tracking errors. Cured and uncured ink on the platen will have a serious effect on printer performance. Any spilled ink must be removed immediately (See RMO Maintenance section). If an image exceeds the 5mm border requirement, printing will not be allowed to proceed.

Maximum Media Thickness

This value is not officially specified. It is theoretically possible for the RMO system to accommodate media up to 3mm (0.11 inches). However, most media at or near that thickness will have problems in the transport mechanism of the RMO unit.

Leader & End of Roll Waste

Leader Waste: 560mm (22 inches)

Leader waste is the amount of media that cannot be printed between the roll media platen and the take-up media roll. This waste is produced every time media is loaded, taped to the take-up core and initialized in preparation for the first print. Trailer waste is the media that cannot be printed at the end of the supply media roll. This will vary slightly depending on the attachment method that was used to secure the media to the media core.

End of Roll Waste (minimum possible): 920mm (36 inches)

End of roll waste is the media that cannot be printed at the end of the supply media roll. This will vary slightly depending on the attachment method that was used to secure the media to the media core.

Foot Pedal Switch Functions

Introduction

The foot pedal switches are used to control the forward and reverse movement of media shafts.

Summary of Dual Foot Pedal Switch Functions

The following table indicates the foot pedal functions for various RMO states.

Actions for foot pedals in various states

	Media Reverse		Media Forward	
RMO State	**Left Hold**	**Left Tap**	**Right Hold**	**Right Tap**
Load Media	Rewinds media onto supply shaft	Unlocks media supply shaft	Advance media from supply shaft	Unlocks take-up shaft
Initialized	Rewinds media	n/a	Advances media	n/a
Unload (before media cut)	**Important:** Don't touch the pedal switches Media is positioned for cut when you click on the Unload icon Cut the media, then proceed with unload			
Unload (after media cut)	Unwinds media from the take-up roll	Rewinds media and unlocks the supply shaft	Winds media back onto the take-up shaft	Winds media and unlocks the take-up shaft

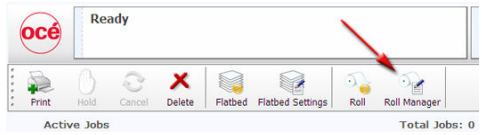
Roll Media Manager

Introduction

The Roll Media Manager is the area of the printer software where you prepare to print on roll media. With this menu you can load and unload media, change media type and parameters, and initialize the printer to prepare it to print on roll media. This section introduces the icons in the Roll Media Manager that are necessary to load and initialize a roll media print job. How to set the Media parameters and print the job is explained in the section "How to Print on Roll Media".

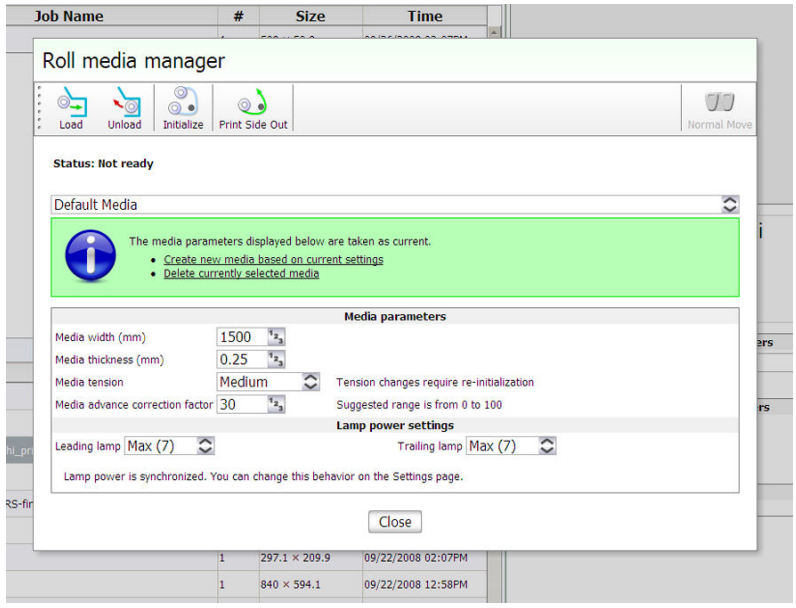
How to Access the Roll Media Manager

Click on the Roll Manager icon in the command toolbar of the Print Job module.



[73] Roll Manager icon

The Roll media manager is displayed in the center of the screen.



[74] Roll Media Manager

Roll Media Manager Menu

Roll Media Manager Icons

Icon	Function
Load	Allows the operator to load new media. Set the foot pedal switches to the Load state.
Unload	Prepares the RMO to allow the operator to cut the existing media, remove it, and replace it with a new roll.
Initialize	Sets up tension on the loaded media and prepares the RMO to print on that media.
Print Side	Operator can select either Print Side In or Print Side Out. Print Side In allows you to print on the back side of the media. The default setting is Print Side Out.
Normal Move / Slow Move	Normal Move is the default state. When you click on this icon in the top right corner, it changes to Slow Move. Use Slow Move when you want to advance or rewind media and stop it at a more precise position. It causes the dual foot pedal switches to move the media more slowly.

How to Use the Roll Media Manager

The procedures to use these icons to load and unload media is explained in the next two sections. How to verify or change media parameters and to actually print a roll media job is explained in the section "How to Print on Roll Media".

How to Load Media

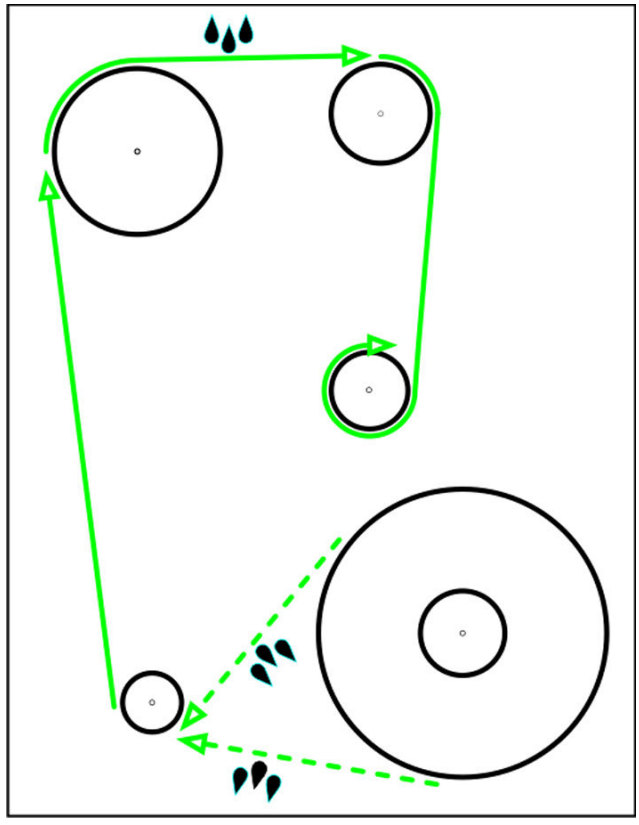
Introduction

This section explains how to load a new roll of media. It details the following actions that are associated with loading media:

- A) Load Supply Media Roll On Media Shaft
- B) Load Take-up Empty Core On Media Shaft
- C) Loading the Media - Standard Method
- D) Loading the Media - Alternate Method

Media Feed Direction

Determine first whether you need the media roll to be print side out or in. "Print side out" means that the media unrolls from the bottom of the supply shaft. "Print side in", means that the media unrolls from the top of the shaft (see the diagram below). This allows you to print on the "back" side of the media.



[75] Media Feed Direction

When to do

This section explains how to load new media when none is currently loaded. If media is already loaded, first read the section How to Cut and Unload Media.

Before you begin

It is very important that the media is wound properly onto the core when it arrives from the manufacturer. The media must be wound straight, tight and even from one end to the other. If you have a roll that is not even, before loading it, hold the roll in a vertical position and carefully and evenly drop one end onto the floor, then tap lightly a few times. If any edges are crushed, unwind and throw away the crushed area or cut off the crushed end of roll. If is not possible to repair, do not use it.

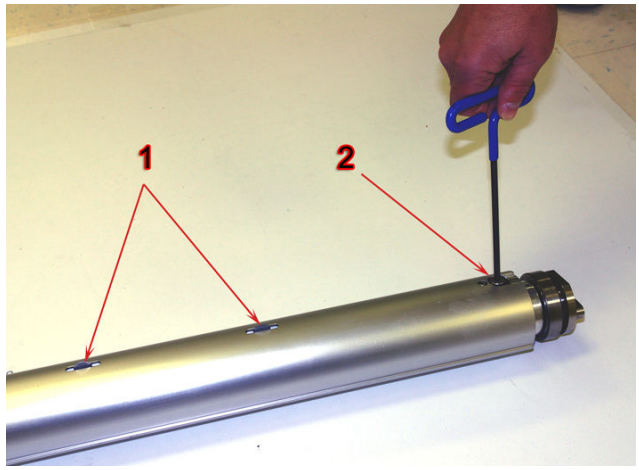
Note:
If media has been stored on its side and has a pronounced flat side, do not use it as it will not advance evenly.

Required tool

- 5mm hex key

A: Load Supply Media Roll On a Media Shaft

1. Place an empty media shaft on a suitable flat work area, positioned as shown, so that the 5mm hex key is inserted on the right side of the shaft to lock and unlock the core locks.

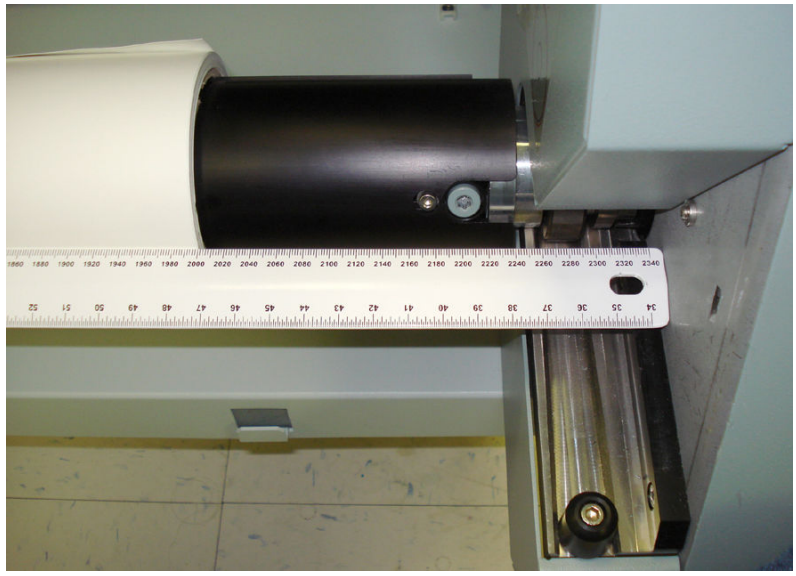


[76] Unlock the Media Shaft Core Locks

2. To unlock the media shaft core locks (1) turn counter-clockwise with the supplied 5mm hex key (2).
3. Slide a new roll of media onto the supply shaft.
4. Roughly center the roll on the shaft, and then insert the shaft into the Supply (bottom) position on the printer. Insert one end of the shaft at a time.

Note:
Load the shaft with the core lock and coupler end on the right side of the printer.

5. Accurately center the media using the supplied ruler. Media should be centered within 1mm on the ruler.



[77] Ruler to Center Media

Note:
The supplied ruler has both metric (millimeters) and imperial (inches) scales. When a media roll is centered on the shaft, and the ruler is placed as shown in the photo, the value on the ruler scale will match the width of the roll. For example, in the photo a 2 meter (or 2000mm) roll is centered on the media shaft.

6. Lock the supply media shaft core locks by turning the 5mm hex key clock-wise.
7. Re-check that the media is still centered as locking the core may cause the roll to shift (usually the shift is from 1 to 2 milimeters to the right).

B: Load an Empty Core and Install in the Take-up Position

1. Place the empty take-up media shaft on a suitable work surface and unlock the media shaft locks with the 5mm hex key.
2. Slide an empty media core that is at least as long as the supply media width onto the take-up shaft.
3. Roughly center the core and then insert the shaft into the Take-up (top) position on the RMO unit.

Note:
Make sure that the core lock and coupler end of the shaft are on the right side of the printer.

4. Lock the take-up media shaft core locks with the 5mm hex key.

C: Loading the Media - Standard Method

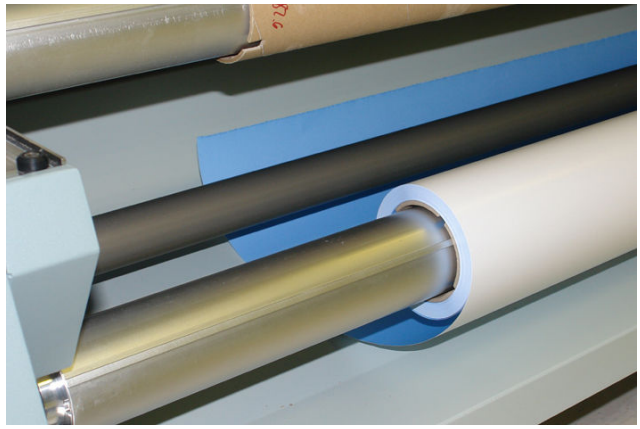
The standard way to load media is quick and efficient and ensures minimum waste of material. However, for some longer print jobs or when you use media that is more flexible and therefore harder to achieve good alignment, there is an alternate method that will be described in Section D. Straight loading of roll media is very important to avoid wrinkles and banding in the print, especially on longer print job runs. If you want to ensure that a media is loaded straight or if you see an inverted light/dark banding across the media, we recommend the alternative method.

1. Select the Load icon from the Roll Media Manager.
2. If you are going to print with "Print Side In", click the icon in the Roll Media manager ("Print Side Out" is the default so you do not need to select it unless you have previously used Print Side In). Note that the icon toggles from one choice to the other when you click it.

Note:
For Print Side Out, the media unrolls from the bottom the supply shaft.
For Print Side In, the media unrolls from the top of the supply shaft.

3. Wait for the gantry to move part way across the table.

4. Thread the media under the media tension bar (Note that the media is threaded for Print Side Out in the photo below). Pay out media with the foot pedal as required.



[78] Thread Media Under Tension Bar (Print side out)

5. Open the media access door at the top of the Roll Media unit, then reach down through the open door to grasp the media and feed it up and over until it reaches the take-up roll.

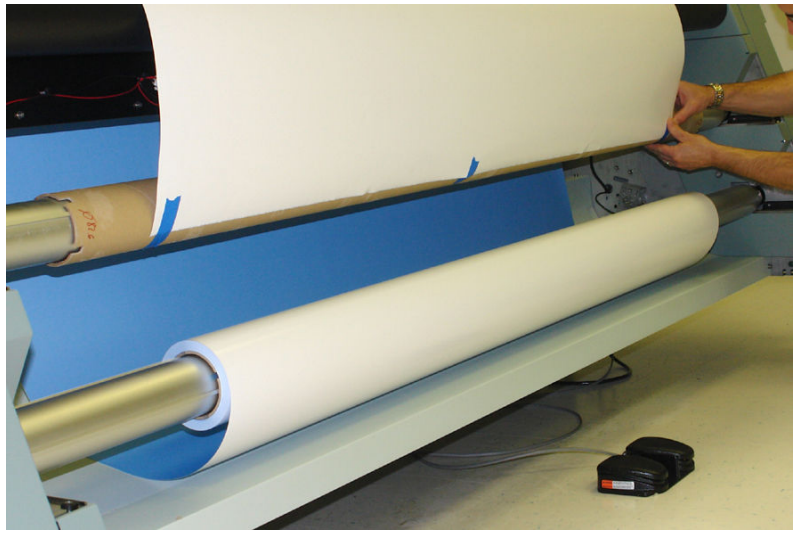
[79] Feed Media Through Access Door

6. Check alignment of the media by feeding it down to the supply roll and make sure that the edge lines up with the edge of the supply roll.

[80] Align Media

7. Rewind the media by continually pressing down the left foot pedal until it is positioned where it can be taped to the take-up core.

8. Tape the media onto the core. The media should have a clean straight edge prior to taping. First tape the center of the media to the core, and then tape both ends of the media.



[81] Tape Media to the Take-up Roll Core

Note:
Important: Use the supplied ruler to check that the edge of the take-up roll is aligned within 1mm of the feed roll.

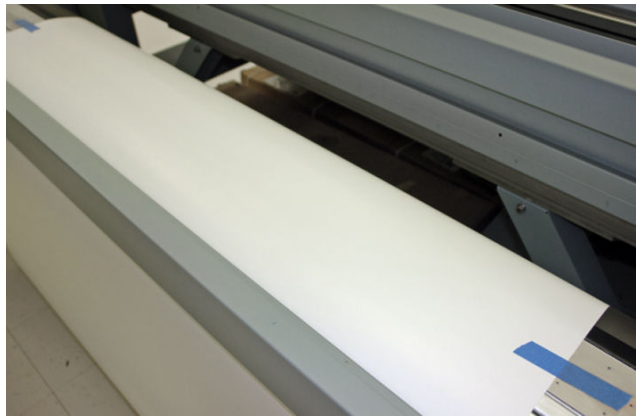
9. Select the "Initialize" icon from the Roll Media Manager to prepare the RMO for printing.

D: Loading the Media - Alternate Method

This alternate method to load media requires a little more time and effort but it usually provides better alignment and therefore less chance of banding in the image. When roll media is not properly aligned, the result is overstepping on one side and understepping on the other side of the media so that the band in the printed image is dark on one side and light on the other. The alternate method is recommended for long print jobs where skewing of the media can become progressively more pronounced or when using media that has some flexibility and therefore proper alignment is hard to achieve with the standard method.

1. Load the roll on the media shaft and begin the load procedure as described in steps 1 to 5 in the standard method, to the point where you have advanced the media over the platen until it lies over the bottom media feed roll.
2. Align the edges of the hanging media to the supply roll edges.

3. Once you have aligned the media edges to the supply roll, without moving the media any further, tape the media to the platen.

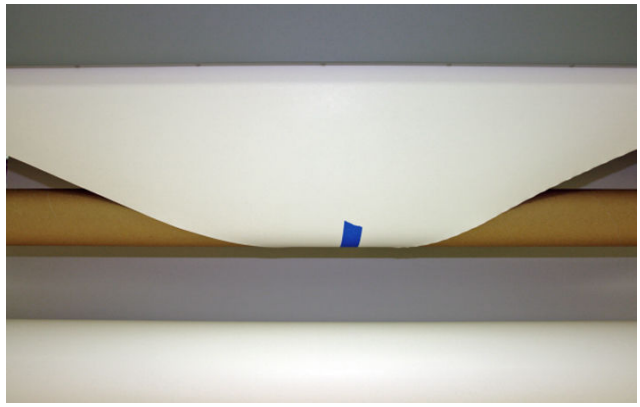


[82] Tape the media edges to the platen

4. Pull the hanging media edge taut and cut the media off from each edge at an angle to result in a point just below the take-up core as shown here.

[83] Cut the media at an angle

5. Tape the pointed end of the media to the take-up core as shown below.



[84] Tape media to core

6. Remove the tape you used to hold the media to the platen.
7. Select the "Initialize" icon from the Roll Media Manager to prepare the RMO for printing.
8. After initialization has completed, advance the media until the cut area is wound onto the core across the width of the roll and verify with the ruler that the supply and take-up edges are at the same location.

Note:
Important: Use the supplied ruler to check that the edge of the take-up roll is aligned within 1mm of the feed roll.

9. Start an RMO print job and verify image quality and that there are no wrinkles or banding.

How to Unload and Cut Media

Introduction

This section explains all of the actions associated with how to cut and unload media when there is still some media left on the supply roll.

Unload Media Summary

The following actions are associated with unloading media:

- A) Initiate Unloading
- B) Cut the Media
- C) Remove Media from Take-up Shaft in Printer or Remove Take-up Shaft
- D) Remove Supply Shaft From Printer
- E) Remove Media Roll Or Empty Core From Media Shaft

Before you begin

Note:
When you select the Unload icon the media will advance automatically by a preset amount. This distance is determined by the Move Media on Unload value in the Settings Roll Module tab. The default value will advance the media to a position past the Media Cut Guide so that the printed image is not cut. To manually increase this distance you can use the foot pedal to advance the media, but only before the Unload is selected. Once Unload is selected the foot pedals will not work until you Initiate a new RMO pint job.

Required tool

- 5mm hex key

A: Initiate Unloading

1. Click on the Roll Manager icon to bring up the Roll Media Manager.
2. Select the Unload icon in the Roll Media Manager to release the tension.

B: Cut the Media

1. Cut the media using the cutter guide.

2. Click on OK to proceed.

C: Remove Media from the Take-up Shaft in Printer or Remove Take-up Shaft

1. If you want to remove the printed images without removing the take-up roll from the printer you can press the left pedal to rotate the take-up media shaft in the reverse direction. You can then roll up the media by hand as it comes off the take-up roll.
2. To remove the take-up roll without manually rolling up the media, tap the right pedal momentarily to rotate the take-up shaft one revolution to the unlocked position in the forward direction.

D: Remove the Supply Shaft From the Printer

1. If you want to change the supply shaft, momentarily press the left pedal to rotate the shaft to the unlocked position.
2. Remove the supply shaft from the printer by pulling it towards you. Pull one end out at a time.

E: Remove Media Roll Or Empty Core From the Media Shaft

1. Place the media shaft on a suitable work surface.
2. Unlock the media shaft core locks using a 5 mm hex key.
3. Slide the media core off the shaft.

How to Set Up a Roll Media Job in ProductionHouse

Introduction

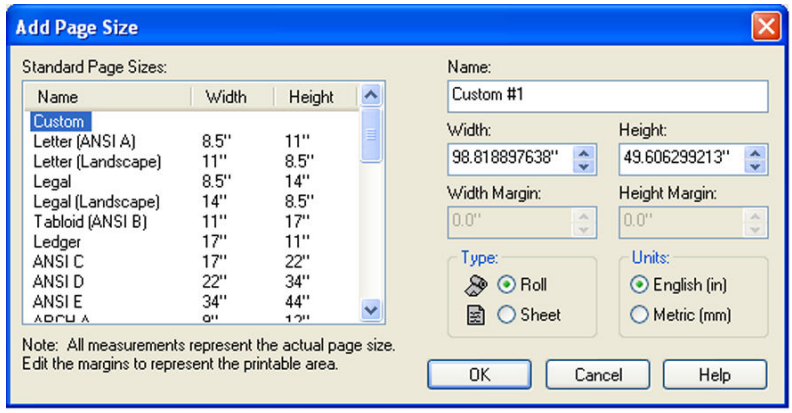
Print jobs can be specified as either a roll job or a flatbed job in ProductionHouse. The job type can be changed after the print job is transferred to the printer.

Purpose

The operator can choose the type of desired print job and also put a hold on it so it will not print automatically.

Set up the Roll Job Option in ProductionHouse

1. When you set the page size for your print job, click on Type: Roll to make it a roll media option job.

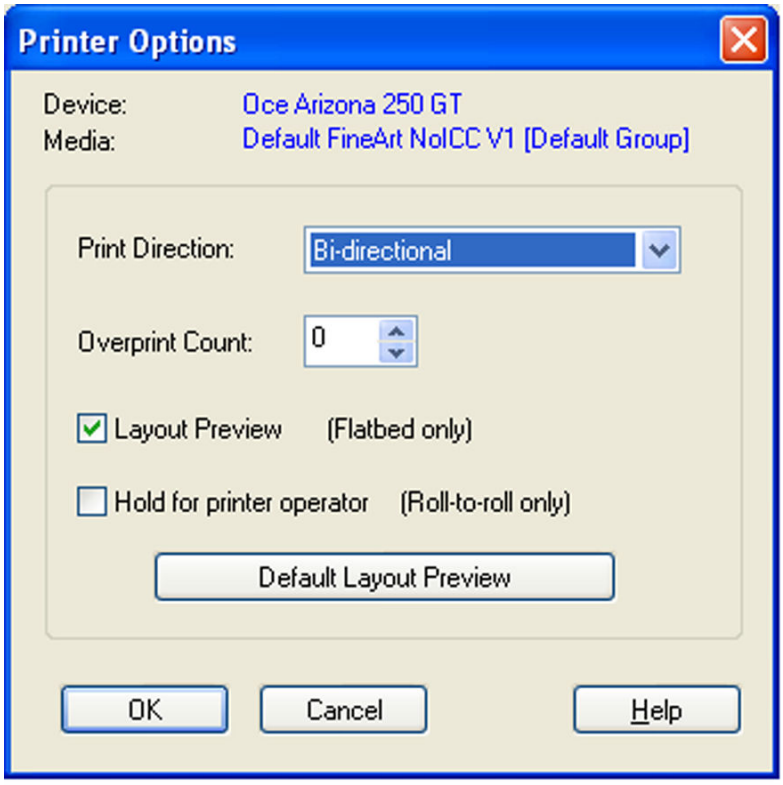


[85] Onyx Page Size - Roll Option

Set a Hold on a Roll Job

1. To ensure that your roll media print job is held and not automatically printed, click on the box in front of "Hold for printer operator" when you set the print options while creating an RMO media in ProductionHouse.

Note:
If you don't set a hold in ProductionHouse, it is also possible to disable the Roll media print queue at the printer. To do this click on the Roll icon in the command toolbar of the Print Job module so that it become dim (grayed out). This will stop any roll media jobs from automatically printing.



[86] Onyx Roll Hold

Note:
The Hold for operator is not selected in this illustration since the box is unchecked. If you want to initiate a hold, click it to select.

How to Print on Roll Media

Introduction

To print an RMO image, media must be loaded and the RMO initialized. Use the Print Job module and the Roll Media Manager to prepare and start the print job.

How to Print on Backlit Media

If your roll media is transparent or opaque and you are going to backlight the image and you want to increase the density, set Quality mode in ProductionHouse. Then click on the Quality parameter in the Print Job menu and select Quality-Density before you initialize the job. This mode increases the density of ink for this image as it prints and therefore improves the appearance of backlit images.

Attention:
The red Emergency stop buttons do NOT stop the media transport when you print on roll media (they only stop gantry and carriage movement). If you encounter a situation where the roll media runs continuously without operator input, the only recourse is to shut off the printer's AC power switch.

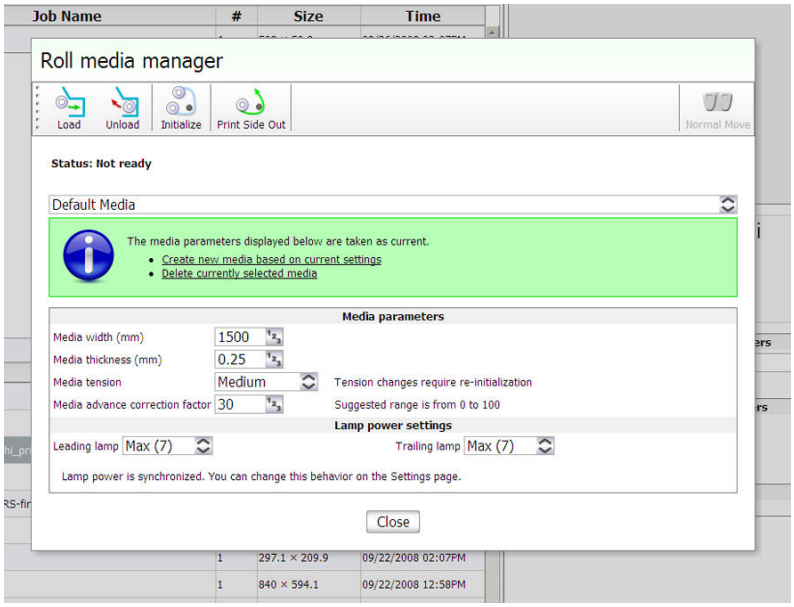
Prepare a Roll Media Print Job

1. Click on the Roll icon in the menu bar of the Job Control module to disable the RMO print queue (this allows you to check media parameters before the job actually prints in case the job was not given a Hold status when it was generated in Onyx ProductionHouse).

[87] Roll Icon

2. In the Print Job Control module, transfer a print job from the ONYX Workflow software.

3. Click on the Roll Manager icon to enter the Roll Media Manager dialog window.



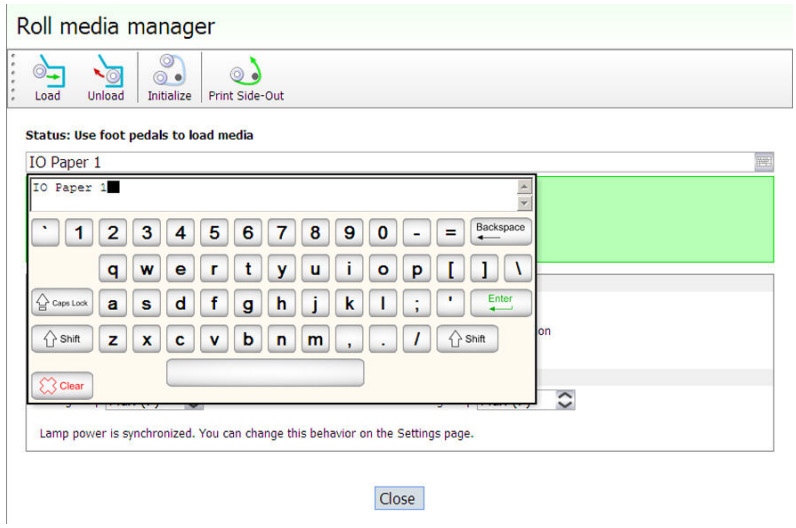
[88] Roll media manager

4. Enter the Media width for the roll media that you have loaded.

Note:
If the media width entered is less than 1067 mm (3.5 ft) the standard nozzle check will not fit across the media. In this case, if the Nozzle Check icon is selected from the Print Job Control command toolbar, the narrow version of the nozzle check (Nozzle Check Narrow) is automatically added to the print queue.
Nozzle Check print: 1067 x 107.5 (3.5 x 0.35 ft)
Nozzle Check Narrow: 886.5 x 214.7 (2.9 x 0.70 ft)

5. Check that the rest of the media parameters displayed match the particular media you loaded.
6. You can create a new media or edit an existing one by changing the parameter values and then saving them under a new media name. When you create a new media it takes the current values as default and automatically creates a unique media name based on the existing name.

Note:
Any changed parameter in the dialog window will be applied to the next roll media print job, even if the change was not saved. This allows temporary changes to the parameters without the need to save that media.



[89] Roll Media Manager Keyboard

Note:
There is always at least one media in the list that is called Default Media. It cannot be deleted, but you can change its parameters if you want to use it. If you choose to delete it, the parameters will go back to its original values, but the item will still appear in the list.

7. Select the Media Tension
8. Select the Media Advance Correction Factor

Note:
Leave it at 50 unless you see light or dark lines of banding in the printed image (refer to the next section "How to Set the Media Advance Correction Factor for more details).

9. When the displayed media values are correctly matched to the loaded media, click Close to exit the Media Manager.
10. Click on the Roll icon in the menu bar of the Job Control module to activate the RMO print queue (the icon will change from yellow to green).

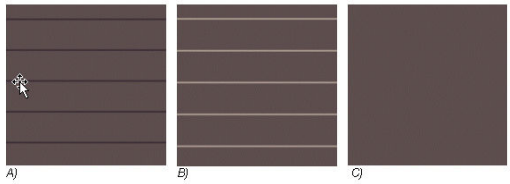
Result

Any print jobs that are in the queue, not on hold, and marked as roll jobs will print. There is no explicit confirmation required to start a roll media print job. Any roll media jobs in the print queue will start to print immediately.

How to Determine the Media Advance Correction Factor

Introduction

When you print on roll media, there can be discrepancies in the amount the media advanced during each print swath. This is referred to as media stepping. It can cause banding to occur, in the form of either dark lines or white gaps. The figure below illustrates this banding.



[90] Media Advance Banding

- A) Understep can result in dark lines, where the media has not advanced enough and the placement of a swath overlaps the prior swath. This requires a higher correction factor.
- B) Overstep can result in white gaps, where the placement of a swath is displaced a significant distance away from the prior swath. This requires a lower correction factor.
- C) Perfect Step, where media advances correctly. This requires no change.

Purpose

The Media Advance Correction Factor (MACF) allows the operator to fine-tune media stepping and to optimize print quality.

When to do

The MACF is only required when this particular banding occurs. If you don't see any banding in your images, there is no need to change the value from its default setting of 50.

Before you begin

It is critical to load the media so that the media edge on the feed and take-up rolls are aligned within 1mm.

How You Determine the MACF

In the 'Roll Media Manager' menu you can select the 'Media Advance Correction Factor' (MACF) and enter a value from 0 to 100. The default value is 50. You can enter a lower value to correct for white gaps or raise the value to correct for dark lines.
.

Procedure to Determine the MACF

1. Put several instances of the MACF print in the print queue.
2. Print with a default MACF of 50 (adjusted in Roll Media Manager).
3. If white lines appear, the media is overstepping. Gradually decrease the MACF until the white lines start to disappear. Make a note of the MACF value. Continue to decrease the MACF until dark lines just start to appear, and note the value. Typically, the average of these two is the ideal MACF for this media.
4. Similarly, if dark lines appear lines appear, the media is under-stepping. Gradually increase the MACF until the dark lines start to disappear. Make a note of the MACF value. Continue to increase the MACF until white lines just start to appear, and note the value. Typically, the average of these two is the ideal MACF for this media.

How to Use Media Edge Protectors

Introduction

Some media tend to have dust and fiber that clings to the edge of the media roll. When released near the RMO (Roll Media Option) unit platen, these particles can find their way into the printhead nozzles and cause dropouts that reduce image quality and produce banding.

When to do

When you use roll media that has fibers on the edge of the roll, use the media edge protectors to stop this material from entering the active print area where the carriage moves across the platen. The edge protectors are disposable and are intended to extend the time between printhead cleanings when fibrous media is used.

Note:
If you use media that is known to have to have "fuzzy" edges you can sometimes minimize the problem by cutting or burning the debris off.

Required tool

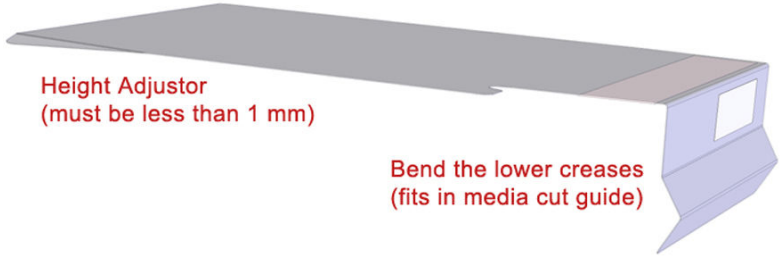
- A package of edge detectors is included in the Accessory kit that ships with the RMO unit. If you run out, you can purchase it as a consumable item (see you local sales representative).

How to Apply the Media Edge Protectors

Note:
There are both left and right edge protectors and they are both labeled (a left protector has the height adjustor, the arc and the indent on the right side, while the right protector is reversed).

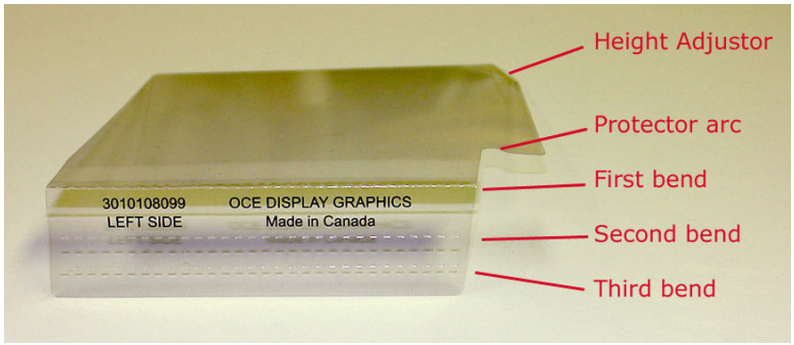
1. Bend the bottom edge of the protector along the first crease (located above the label with the part number) to approx 90 degrees.

2. Bend the other two creases slightly so that they have a V shape when viewed, as illustrated in the side view figure below.



[91] Side View of Media Protector

3. Bend the height adjustor (small triangle in the top corner of the edge protector) slightly and then straighten it again. This results in a slight bend (no more than a media thickness), that allows the media edge to move more freely under the protector.



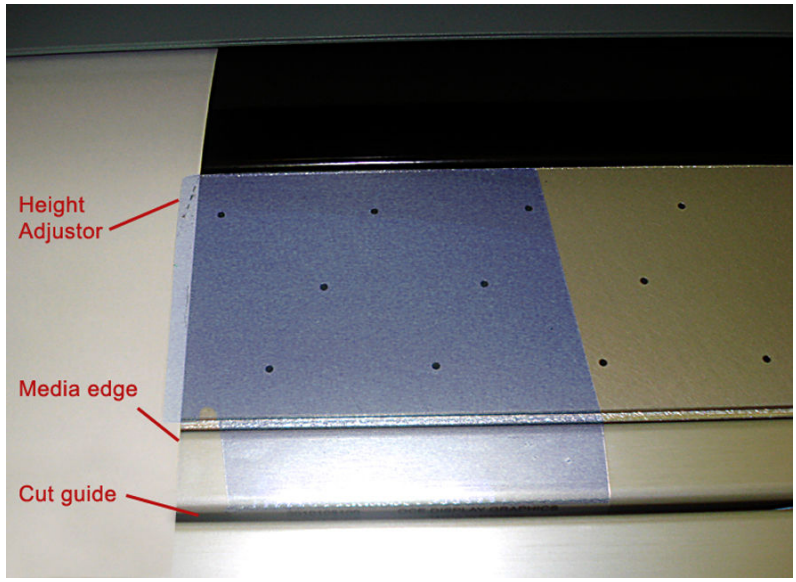
[92] Media Edge Detector Height Adjustor

Attention:
If the height adjustor area is higher than 1 mm from the platen, there is a possibility that the carriage may hit the edge of the protector and thus damage printhead nozzles.

4. Peel the backing layer from the double-sided tape on the back of the protector.
5. Place the bent edge of the protector into the media cut guide, but do not press down on the tape yet.
6. Slide the protector towards the media edge until the inside edge of the height adjustor is positioned over the media edge (see figure below).

Note:
Do not let the plastic edge near the arc butt up against the media edge or the device may not let the media pass smoothly.
The vacuum in the platen will hold the main part of the protector in place while the image is printed.

7. Press down on the tape to fasten the protector in this position.



[93] Edge Protector in Position

Note:
The adhesive on the edge protector can be re-used approximately ten times. If you find that it is not holding the protector in place, then use a new one.

Result

The media edge protectors will reduce the amount of fiber and other debris. However, it is important to keep the platen and cutting guide areas clean as indicated in the Roll Media maintenance section.

How to Deal with Wide Media

If you use media of the maximum width for the RMO (2.2m or 7.2 feet) that requires media edge protection, you can cut the protectors in half in order for them to fit.

Chapter 8
How to Use the Static Suppression Upgrade Kit

Reduce Static with a Static Suppression Kit

Introduction

The Océ Static Suppression Upgrade Kit is a Commercial Product that can be ordered as part # 3010106603. If you are experiencing static-related imaging problems this optional upgrade kit contains an ionizer bar that provides a solution to reduce static. Some rigid media can have a large static surface charge. If the charge is high enough, ink can be repelled from the media. This ink mist can show up as cloudy areas in white sections of the image. Static not only causes these printing artifacts, but can also result in excessive ink accumulation on the bottom of the carriage.

Note:
You must have at least printer software revision 1.7 or greater, installed to support the static suppression ionizer bar.

Purpose

Ionization is a solution to the problem of static. A common print industry method of controlling static electricity is the use of ionization. For the Océ anti-static bar to be effective, it must be close to the media. The bar uses AC current to create positive and negative ions, which are attracted to the unbalanced surface of the material. This neutralizes the media and ink is more readily accepted. It is important to note that static electricity cannot be entirely eliminated; only reduced. To eliminate static electricity, something physically would have to be done to the conductivity of the material.

Humidity is also important to control static. Static-related print issues can be greatly reduced by an increase in print environment humidity. While most media will print without difficulty at humidity levels between 30 and 50%, thermoplastics will print more successfully when humidity is above 40%. Some locales, such as desert areas frequently deal with very low humidity, while other regions only experience this at certain times of the year. If a printer is installed in a low-humidity area and/or a large volume of printed work is on media that is prone to static, we recommend the installation of a humidity control system.

When to do

Why Static is a Problem
Many standard print materials such as PVC and acrylic are electrical insulators, and the static charge generated and held by these materials can provide some printing challenges. Thermoplastic materials are the most common static-laden print media. Static-prone materials tend to attract dust and hair and release charges that can be felt and seen.

How to Activate the Static Suppression Ionizer Bar

1. Press the Settings tab on the printer interface screen.
2. Click on the Printer icon.
3. If the Ionizer Bar option is set to Off, set it to ON (this option is not displayed if the ionizer bar is not installed).

Note:
Once you have set it to On, it will always automatically turn on at the beginning of a flatbed job. Unless you use media that you are certain does not require static reduction, there is no need to turn if Off as the bar is only active when the printer is printing.

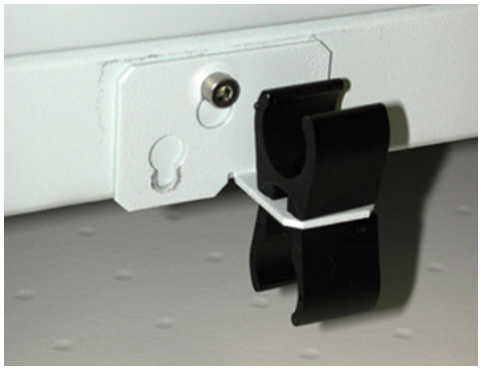
How to Change the Height of the Bar

The Ionizer bar is mounted by default to accommodate media up 13mm (0.5 inches) in height. If you need to use media that has a thickness of greater than 13mm you will have to reverse the mounting brackets. When the brackets are reversed the maximum thickness of media that can be used with the ionizer bar is 38mm (1.5 inches).

1. Turn off the printer power switch.
2. Press down on the ionizer bar first from one end and then the other to release the bar from all four brackets.

[94] Remove Static Bar

3. Loosen the bracket mount screw and then slide the bracket up in the keyed slot to remove it.



[95] Bracket Mounted Low

4. Turn the bracket 180 degrees and then fit the other keyed slot over the bracket screw.
5. Slide the bracket mount until the screw is located in the smaller end of the keyed slot.

[96] Bracket Mounted High

6. Make sure the bracket is level an then tighten the bracket mount screw.
7. Repeat Steps 2 to 5 until all four mounts are reversed.

Result

The printer can now use media with a maximum thickness of 38mm (1.5 inches).

Chapter 9
How to Work With White Ink and Varnish

Operator Guidelines for White Ink and Varnish

Introduction

This chapter is necessary only if you have a printer with the white ink or varnish option. This includes the Océ Arizona 460 GT/XT and the Océ Arizona 480 GT/XT (the 440 GT/XT does not support varnish or white ink).

Océ Arizona 440 GT/XT	4 channel	CMYK
Océ Arizona 460 GT/XT	6 channel	CMYKWW CMYKWV
Océ Arizona 480 GT/XT	8 channel	CCMMYKWW CCMMYKWV

Managing White Ink and Varnish

Varnish does not require any special handling and regular printhead maintenance is adequate. White ink is re-circulated in the system to limit any settling of the ink. For this to take place, **the printer must be left powered on at all times**. Regular maintenance is required to keep the white printheads functioning properly.
Note that white ink may require additional purges.

Before you begin

If your printer includes the white ink or varnish option, all ink bags must be present and all must contain ink or varnish in order for the printer to function properly.

Attention:
Daily maintenance is important even when white ink or varnish are not being actively used. Failure to perform daily maintenance can result in nozzle dropouts or even printhead damage. The purpose of maintenance is to clean the nozzles of the printheads and thus ensure better image quality and avoid banding and other print quality issues.
More maintenance is required in dusty environments, or when there are fibres protruding from the media, or when printing on reflective media such as glass or metal (more reflected UV light hits the printheads). A dirty or dusty environment is harmful to the printheads because particles can plug the nozzles and result in poor image quality. Avoid close proximity to routers and other sources of dust and debris. Also avoid placing your printer close to solvent pprinters as the fumes can have a negative effect on the printheads.

Maintenance is Essential

1. Agitate the white ink bag gently as described on the bag label at least once a week.
2. Perform Printhead Maintenance at least one time every workday and more often, if required. Do this even if the printer is not used that day.

Note:
Refer to the Printhead Maintenance section of the Maintenance chapter for an explanation of how to properly perform daily maintenance. Also, the complete Printhead Maintenance procedure is documented in a video that illustrates all of the steps involved and also explains why it is important to perform regular maintenance. The video can be viewed from the Customer Support page and is also available to download: http://dgs.oce.com/. Note that the video discusses the Océ Arizona 550, but the procedure is the same for the Océ Arizona 400 series printers.

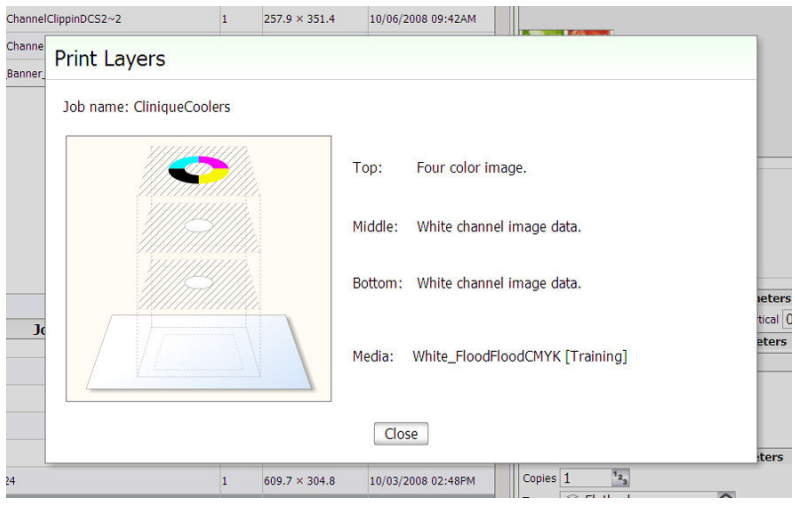
White Ink Workflow Overview

Introduction

Océ Arizona printers with the White Ink Option provide under-printing for non-white media or objects, over-printing for backlit applications on transparent media and/or printing white as a spot color.
This section describes how the printer provides white ink support, gives a summary of the workflow data preparation, and also shows some of the ways white ink can be used in print applications.

Definition

When working with white ink there are three data layers available that allow you to determine the area the white ink will cover and also how it will appear (or not appear) in relation to other colors, depending on the layer it is placed in. You can determine the density of the white ink by altering the drop size and also increase it by using two white channels.
The layer setup is defined in the media model but can be modified as a job printer setting within the ONYX software. When the white ink information is properly prepared according to the methods described in this chapter and the print job is sent from the ONYX software (either ProductionHouse or THRIVE) to the printer, you have an opportunity to verify that the layers are properly embedded in the job.
With the white ink print job selected in the Job Control module of the printer software, click the Layers button to activate a graphical representation of the Print Layers that allows you to verify the layer order.



[97] Preview Layer in Printer UI

Printer Flood Fill Versus Job Data

White ink can be printed using flood fill data generated by the printer or job data. A printer flood fill cover the whole image area while spot data is assigned in specific areas. Job data is separated by the ONYX software into six data planes: C, M, Y, K, Spot 1, and Spot 2. The white ink channel is usually configured to print using the Spot 1 or Spot 2 data plane but can also be printed using the C,M,Y or K data plane.

White Ink Workflow Data Preparation

White ink print job output can be accomplished in a variety of ways depending on the desired results and preferred working process. There are three primary methods and they can be used either independently or all at the same time. The workflow options are:
Printer Flood Fill Layer Configuration,
ONYX software Spot Layer Tool, and
White Spot Data Image Preparation.
Printer Flood Fill Layer Configuration in an Onyx Media Model does not require any pre-rip file preparation and is the easiest method of achieving white ink output. All that is required is to set up the Layer Configuration to include a printer flood layer. The printer flood layer encompasses the bounding box (the outer border of the image) of the file being processed. There is also an option to control the amount of flood by choosing the drop level. The higher the drop level number the greater the amount of white ink.
ONYX Software Spot Layer Tool offers many options to process an image, and thus allows various possible configuration choices. You can save these configurations as Filters and place them in a Quick Set and this makes it possible to re-create with minimal effort settings that are often used. All work with the Spot Layer tool requires a media with two spot layers enabled in the layer options in order for it to work as expected.
White Spot Data Image Preparation requires that the white data be prepared in image editing programs such as Adobe Illustrator®, InDesign, or PhotoShop®. You must use specific naming conventions and image use protocols in order for the Onyx RIP-Queue software to process the data as desired. This method may be the best choice if the desired white ink spot data includes complicated selections or if data is being created for outsourcing. A reasonable level of proficiency in these programs is recommended to use this technique.

All of these methods can also be used either alone or in conjunction with each other to create the desired output results. For example, you may generate the spot layer information for parts of an image in PhotoShop and then go on to specify a Flood Layer Configuration in Production House. This can result in a Flood Layer and a Spot Layer followed by a CMYK Layer. The spot data and the flood will occupy two layers of white density and the CMYK image data can occupy the third layer. You can determine the print order of these layers in ProductionHouse or THRIVE.

Layers can be defined at any of the following locations:

- Defined in the media when the media is created - Mode Options
- Selected in a Quick Set - Media Options
- Modify the printer settings of a processed job in RIP Queue - right-click the job, edit printer settings.

White Ink Applications

The following are some specific examples of the ways that the white ink workflow can be applied.

- **Backlit Application**
  The backlit application involves printing onto a transparent or translucent material and mounting the finished piece onto a light box or location where illumination from behind is possible. In the backlit application, white ink is intended to provide a light diffusing layer. This application is possible using either 2 or 3 layers.
- **Day-Night Application**
  Similar to backlit, the day-night application also involves printing onto a transparent or translucent material. A day-night print can be viewed either front-lit or backlit. This is achieved by printing color data on two separate layers with a white diffusing layer in the middle.
- **Opaque Application**
  The opaque application involves printing CMYK data onto non-white media. For this application, white ink is required both to enable the printer to produce images where white forms part of the image content, as well as to act as a base for the CMYK color set.

White Ink Layer Options

Application	Bottom	Middle	Top	Notes
Backlit First Surface (printing on the front side of the media)	White	CMYK	CMYK	CMYK layers contain same data.
Backlit Second Surface (printing on the back side of clear media)	Reverse printed CMYK	Reverse printed CMYK	White	
Day-Night (First or Second surface)	CMYK	White	CMYK	CMYK data is reversed or right-reading
Opaque	White	White	CMYK	3 layers
Opaque	<empty>	White	CMYK	2 layers

Varnish Workflow Overview

Introduction

Océ Arizona printers with the Varnish Option can use varnish as a flood coat or can create spot features that place varnish in select areas in a print job. The printing of varnish is applicable only to flatbed printing and is not available with the RMO.
This section describes how the printer provides varnish and gives a summary of the workflow data preparation.

Definition

Varnish is printed as a second process after the CYMKW image is printed. Immediately after printing a CMYKW image, the gantry moves to the start of image position and prints a varnish spot or printer generated flood data. Note that printing a varnish flood over a large image will require significant time.

Spot Versus Printer Flood Fill

Varnish data can be applied to a print job in two ways: Printer Flood Fill or Spot Data.

- A Printer Flood Fill is like an autofill that is done by the printer, where varnish data fills the entire bounding box (the rectangular area that defines the total perimeter) of the image. If a printer has two channels of varnish for double density, twice as much varnish can be printed on a single image layer.
- Varnish Spot data can be defined in image editing applications such as Adobe Illustrator® or with the Spot Layer tool in the ONYX workflow.

Note:
The Varnish option is not available for print jobs that use the High Definition print mode. Varnish can be used with all other print modes.

Varnish Workflow Data Preparation

Varnish print job output can be accomplished in a variety of ways depending on the desired results and preferred working process. There are three primary methods and they can be used either independently or all at the same time. The workflow options are:

- Printer Flood Fill Configuration,
- ONYX software Spot Layer Tool, and
- White Spot Data Image Preparation.

Printer Flood Fill Layer Configuration in an Onyx Media Model does not require any pre-rip file preparation and is the easiest method of achieving varnish output. All that is required is to set up the Print Mode to use a Varnish Flood. The printer flood encompasses the bounding box (the outer border of the image) of the file being processed.

ONYX Software Spot Layer Tool offers many options to process an image, and thus allows various possible configuration choices. You can save these configurations as Filters and place them in a Quick Set and this makes it possible to re-create with minimal effort settings that are often used. All work with the Spot Layer tool requires a media with two spot layers enabled in the layer options in order for it to work as expected.

White Spot Data Image Preparation requires that the varnish data be prepared in image editing programs such as Adobe Illustrator®, InDesign, or PhotoShop®. You must use specific naming conventions and image use protocols in order for the ONYX RIP-Queue software to process the data as desired. This method may be the best choice if the desired varnish spot data includes complicated selections or if data is being created for outsourcing. A reasonable level of proficiency in these programs is recommended to use this technique.

Preparation for Varnish

The application of Varnish to a print produces some spectacular, and at times, surprising results depending of the combination of design and media. To achieve a smooth high gloss, varnish must be applied in heavy coats. To achieve good results consider the following influences and tools.

- **Environmental Contaminants**
  In the printer operating environment the amount of airborne particles can influence the final varnish finish. Since the systems that condition and circulate the air can also circulate dust and particles, keeping the printer clean enough to produce good gloss varnish finish may require extra cleaning. If you use the Varnish option frequently, we recommend that you take steps to minimize contaminants by isolating the printer from dusty conditions.
- **Surface Preparation**
  The surface of the media must be free from dust and dirt particles. With the media loaded on the table, it is recommended that you gently and completely wipe the surface with a Lint Free cloth or a Tack Cloth.
- **Cleaning Tools**
  Tack Cloths are a highly effective tool for trapping and removing dust and dirt particles from most surfaces. They can be purchased at various stores that offer paint and supplies. It is best to attach a Tack Cloth to a flat object and let it lightly rest on the media while it is wiped.
  Electrostatic Cleaning Devices can be used with a Tack Cloth attached to wipe the surface and and will reduce static charges that attract more dust. The long handle allows access to the media across the entire printer table. Lint Free Cloths can also be used.

Summary

Follow these simple points to produce good results with the Varnish option:

- Clean the surface of the media before each print. If you gloss coat a rough stock it may be difficult to "fill in the surface" and achieve a smooth high gloss finish.
- Clean the underside of the Carriage to avoid dust being deposited on the print.
- Keep the UV Lamp Filters clean.
- For a smooth high gloss use a smooth coated media as it will allow the varnish to flow well.

Note:

If you gloss-coat a rough media it may be difficult to "fill in the surface" and achieve a smooth high gloss finish.

How to Configure ONYX Software for White Ink and Varnish

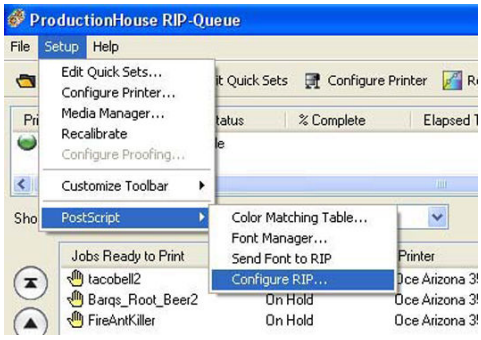
Introduction

This section describes how to configure ONYX software (either ProductionHouse or THRIVE) to recognize white ink or varnish workflow elements and thus allow you to apply the approach that is best for your print job application. In order for the ONYX software to successfully address white ink or varnish workflow data, there are options in the software that must be configured.

Note:
Step 1 and 2 below are required for ProductionHouse only. Step 3 is needed for both ProductionHouse and THRIVE.

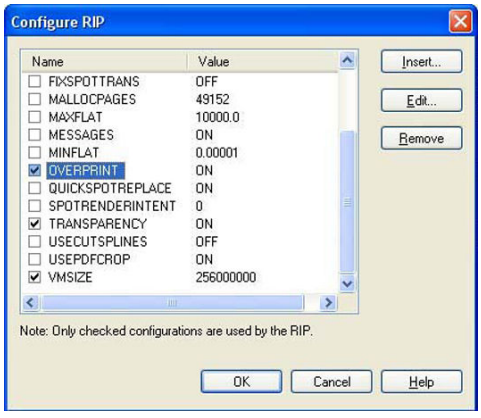
How to Configure ONYX software

1. Within Rip-Queue, access the Configure Rip Options Palette.

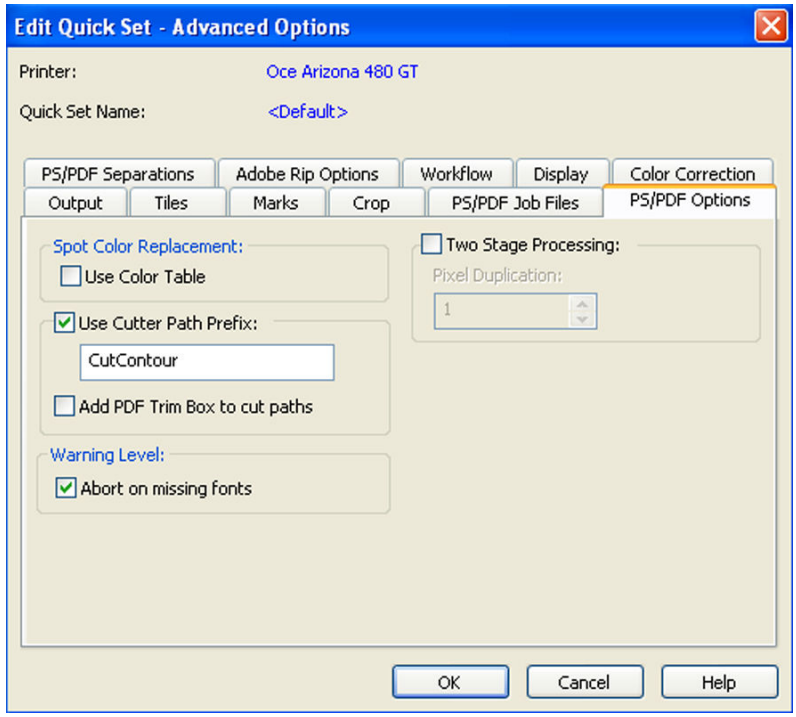


[98] Set up Onyx RIP

2. Once here, ensure that Overprint is turned on (checked).



3. In your Quick Set, or in Preflight/Job Properties/Postscript turn off two-stage processing (make sure the box is not checked).



[100] Turn off Two Stage Processing

Result

ONYX software is now prepared to accept print jobs with white ink or varnish data.

White Ink QuickStart

Introduction

This section shows you how to print a simple job with a white flood fill.

Purpose

This exercise will help you get familiar with some of the basic concepts involved when you print images with white ink.

Before you begin

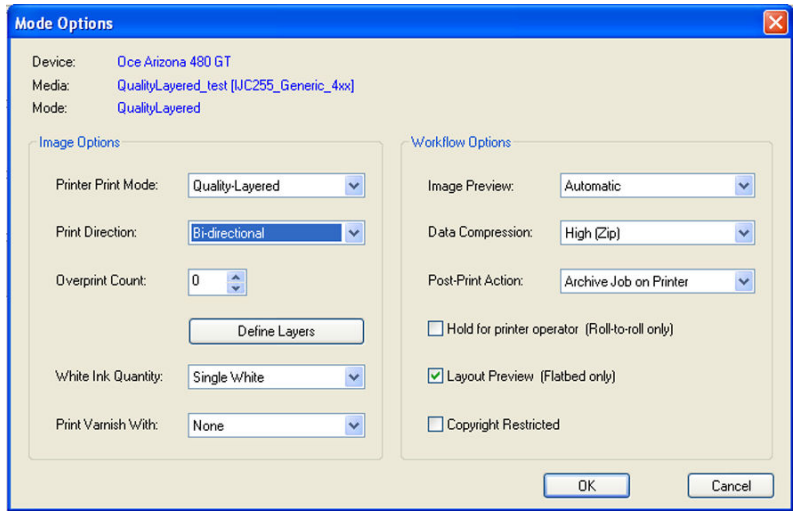
Obtain and import a media model that is set to Quality-Layered print mode.

Note:
Sample Media models for white ink are available for download from the DGS website: http://dgs.oce.com/. These media are documented later in this chapter (see How to Use Media Models to Print With White Ink).

How to Print a Simple Job Using White Ink

1. Open an image of your choice using the media model with a Quality-Layered print mode.
2. Take the printer offline in ONYX RIP-Queue so the job will not be automatically sent to the printer.
3. Process/rip the job.
4. Define one of the data layers as a white flood layer.

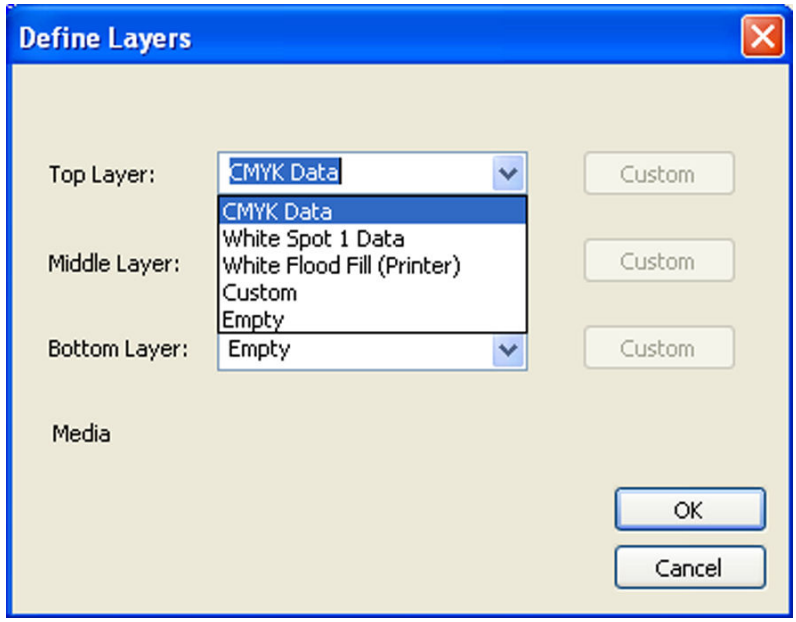
To define a white flood layer, modify the printer settings of a processed job in RIP Queue - right click the job, edit printer settings, select Quality-Layered for the Printer Print mode, then select Define Layers



[101] Quality Layered

If you want to print first surface (e.g. opaque media) the bottom and middle layers can be configured to be white flood layers and the top layer to be a CMYK data layer. If you want to print second surface (e.g. transparent media viewed from side that does not have ink on it), then the bottom layer should be a CMYK data layer and the middle and top layers white flood layers.

5. Select White Flood Fill (Printer).



[102] Define Layer

6. Put the printer back online in ONYX RIP-Queue and send the job to the printer.

Note:
To preview the layer order in the image, click Layers in the printer software.

7. Print the job.

Varnish QuickStart

Introduction

This section shows you how to print a simple job with a varnish Printer Flood Fill.

Purpose

This exercise will help you get familiar with some of the basic concepts involved when you print images with varnish.

Before you begin

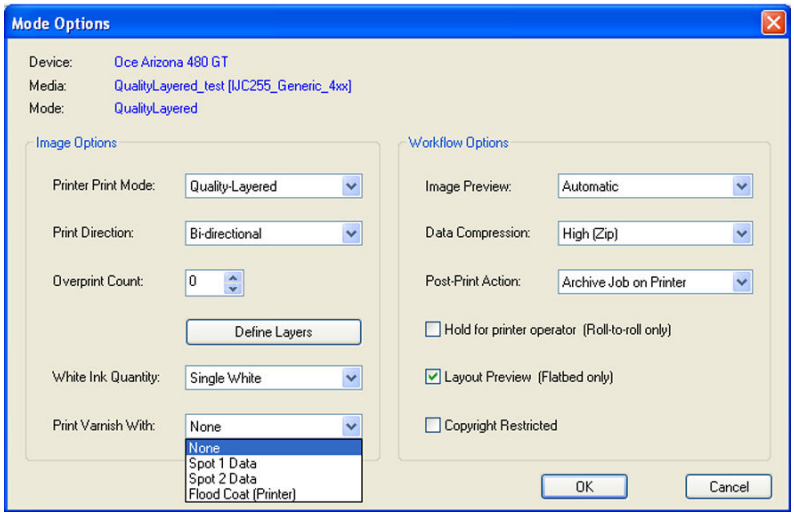
Obtain and import a media model that is set to Quality-Layered print mode.

Note:
Sample Media models for varnish are available for download from the Customer Support section of the DGS website: http://dgs.oce.com/. These media models are documented later in this chapter (see How to Use Media Models to Print With White Ink or Varnish).

How to Print a Simple Job Using Varnish

1. Open an image of your choice using a media model with a Quality-Layered print mode.
2. Take the printer offline in ONYX RIP-Queue so the job will not be automatically sent to the printer.
3. Process/rip the job.
4. Define a printer flood coat.

To set up a varnish printer flood, modify the printer settings of a processed job in RIP Queue - right click the job, edit printer settings, select Quality-Layered for the Printer Print mode, then select Print Varnish With: Flood Coat (Printer).



[103] Select Varnish

5. Put the printer back online in ONYX RIP-Queue and send the job to the printer.

Note:
Since varnish is not printed in a layer, it is always printed last so it is on top of any other image data.

6. Print the job.

White Ink and Varnish Print Jobs

How to Select a Printer Flood Fill

Introduction

When working with white ink or varnish you can choose the workflow that best fits your needs. There are three main approaches to white ink/varnish workflow with your printer:

- **Printer Flood Fill Mode** - uses the Printer Flood Fill Configuration.
- **ONYX Spot Layer Tool** - generate the white spot data in ProductionHouse.
- **Spot Data (pre-defined)** - spot data is created in image editing application such as Adobe Illustrator, InDesign, or PhotoShop.

This section documents the Printer Flood Fill approach. The next two sections document the other two Spot approaches.

Note:
With the Printer Flood Fill approach, white ink is set up as a layer that is embedded in the print job while varnish is simply selected and printed as a top coat on the printed image.

Purpose

The Printer Flood Fill mode allows you to print an image with a varnish fill top coat or a white flood fill as an underlay or an overlay. The edges of the image bounding box (the outer perimeter of the image) will determine the extent of the flood fill area.

When to do

This approach is used when an image is rectangular in shape and requires a white or varnish flood fill. The printer itself provides the flood fill rather than the ONYX Spot Layer Tool or an image editing application, so no additional data preparation is required.

Note:
If jobs are nested in the ONYX software, white or varnish is printed between jobs when you use this technique because the outer extent of the entire nested job is used to define the flood area.

How to Prepare a Printer Flood Fill Layer for White ink

1. Open the print job in your ONYX software and use a media model that includes the Quality-layered print mode.

Note:
The file must be sized at the final output dimensions required for the flood area.

2. Define one of the data layers as a white flood layer.
   To define a layer as a white flood layer first select Quality-Layered as the Printer Print Mode, then select Define Layers and finally define a white flood layer.
   Layers can be defined at any of the following locations when a job is processed:
   - Defined in the media when the media is created - Mode Options
   - Selected in a Quick Set - Media Options
   - Modify the printer settings of a processed job in RIP Queue - right-click the job, edit printer settings.

Note:
If you want to print first surface (e.g., on opaque media) the bottom and middle layers can be configured to be white flood layers and the top layer to be a CMYK data layer. If you want to print second surface (e.g., transparent media viewed from the side that does not have ink on it), then the bottom layer should be a CMYK data layer and the middle and top layers are white flood layers.

3. Send the job to the printer, click Layers in the printer software to verify the layer order and then print the job.

How to Prepare a Printer Flood Fill for Varnish

1. Open the print job in your ONYX software.

Note:
The file must be sized at the final output dimensions required for the flood area.

2. Select Print Varnish With: Flood Coat (Printer).
   Varnish can be set up at any of the following locations when a job is processed:
   - Defined in the media when the media is created - Mode Options
   - Selected in a Quick Set - Media Options
   - Modify the printer settings of a processed job in RIP Queue - right-click the job, edit printer settings.

3. Send the job to the printer.

How to Create Spot Data with the Spot Layer Tool

Introduction

The Spot Layer Tool can be used to set up two spot data planes that define areas where spot 1 and spot 2 data are added to a print job. The tool is used with the Océ Arizona 460 and 480 printers as they both have two extra channels that provide varnish or white ink as well as CMYK.

In this section, you'll learn how to access and set up the Spot Layer Tool. The tool provides a variety of options for generation of spot layers, and you may want to explore them with a sample file of your own to familiarize yourself with the functionality. Remember that any actions you set for this tool will only work successfully when used in conjunction with properly constructed layers. The tool is located in Preflight on the Color Correction tab.

The Spot Layer Tool provides options for generating spot layers for your image in ProductionHouse rather than in image editing programs such as Illustrator or Photoshop. The tool has many advanced options and this section will explain them so that you can set them up to best achieve your desired results. The tool options and settings to use it for spot data creation are listed here and are followed by instructions to access the tool.

The Spot Layer Tool Provides These Options:

Generation Options - Set Media

Set media color is optional and serves two purposes:

- If you want to preview the media color in Preflight, you can set the media color either from the image or from the color dialog menu.
- If you have areas in your image that use the media color and you want that color to be handled with special consideration. For example; if you want the media color from the image to show through the design, you must first define your fill options, then set the media color and define the Media Color Handling Options as either "Spot Knockout" or "Full Knockout".

Note:
The generation options are used in combination with the fill options, except when the media color handling is set to "No Knockout". If you want to use the Spot Layer Tool to create flood fills, underlay fills or mask fills it is not always necessary to set a mask or media color to get the desired results.

To set the media color: Click the sample box to activate the color picker or use the drop down arrow to access the Color Dialog menu.

Generation Options - Set Mask

The mask allows you to determine the area that you wish to print with spot data. Setting the mask color is optional. If the image you are printing contains white or varnish data in more than the mask area, you will need to set up a different background color not used anywhere else in the file to use as your mask. This must be done in an image-editing program prior to bringing the image into the Spot Layer Tool.
To set the mask color: Click the sample box to activate the color picker or use the drop-down arrow to pick the color from the preview.

Generation Options - Media Color Handling

If you have set a media color, you have three options for how you would like the media color to be handled. The term “Knockout” means to remove from the selection. If you’ve set a media color, chances are you want some portion of the design to be removed to use the media color. These are the option you have to choose from:

- ■ No Knockout - If you’ve set a media color to help you visualize your output, choose this option. This will print the image and spot data with no knockout.
- ■ Spot Knockout - If you choose this option, RIP-Queue removes the spot data anywhere the image data matches the media color that you set. Use this option when you want to knockout the spot data but still print the image data that matches the media color.
- ■ Full Knockout - If you choose this option, RIP-Queue removes the spot data and the image data anywhere the image data matches the media color that you set. Use this option when you want to knockout the spot data and the image data, allowing the media to fully show through.

Spot Channel

The Océ Arizona 460 and 480 printers have two spot channels available. The names that appears here should be the ones you used to create the media in Media Manager. The recommended spot channel names are: "Spot 1" and "Spot 2".

Flood Fill

This option generates a flood fill for the entire image by combining the underlay and mask fills together. When you check this option, the underlay and mask fill sliders lock together and are set at 100%. You can change the opacity for the flood fill by moving either of the sliders.

Underlay Fill Opacity

This option generates a fill in the selected spot channel where image data exists. The fill will be generated anywhere image data does not match the mask.

Mask Fill Opacity

This option generates a fill in the selected spot channel where mask data exists. The fill will be generated anywhere the image data matches the mask color.

Choke and Spread

Choke reduces the outer edge of the underlay. Use choke when you want to eliminate white from peeking out of the edge of your image. Spread increases the outer edge of the underlay fill. Use spread when you want a deliberate halo around the edge of your image. Choke and Spread work in tandem. Each mark on the slider represents 1 pixel width of choke or spread up to 10 pixels (+-) .The actual preview in Preflight is exaggerated from what is printed. This exaggerated display makes it easier for you to see the results from moving the slider. When you use the Spot Layer Tool for masks, we recommend a choke value of 3 ticks.

Diffuse Edge

Use this option when you want a gradual transition from the underlay to the mask to create a soft edge for the fill. We do not recommend use of this option.

Filter

Once you've defined your settings, save them by exporting a Filter to use on similar jobs. Filters are a global color correction that can be applied to Quick Sets to automate the printing process for multiple jobs that use the same settings.(*'How to Create and Use Quick Sets'* on page 195)

Note:
Many of the Quick Set and Filter settings for a job can be overridden in RIP-Queue or Preflight, if desired.

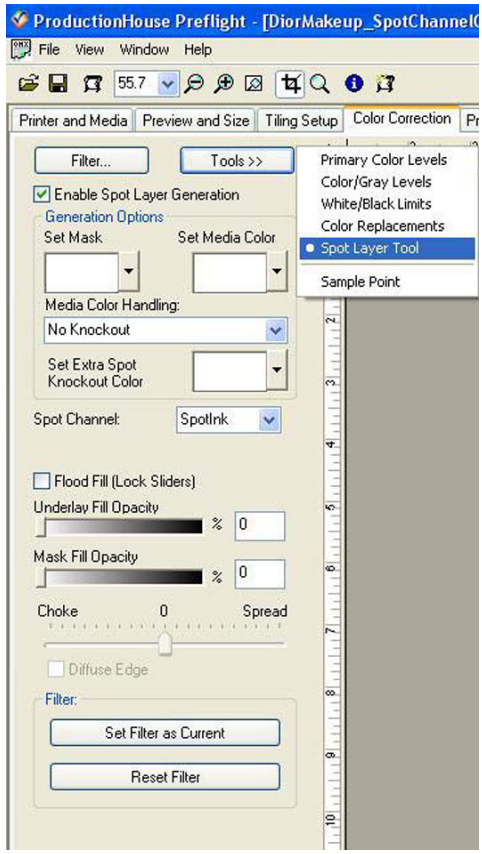
How to Use the Spot Layer Tool

This manual assumes that you have some experience with graphics applications and with ONYX software. If you prefer a self-guided and hands-on tutorial, Customer Application Bulletin 22, "How to Use the Spot Layer Tool for White Ink Workflow" provides a simplified method to print with white ink (it does not mentionVarnish, but the same principles apply). It guides you through a simple tutorial that shows how to prepare an image for quick and easy white ink print production with spot data. You will learn how to isolate the white area of your image in Illustrator so that it will be recognized by the Spot Layer Tool and then printed as white by the printer. Download Application Bulletin 22 from the Customer Support web site: http://dgs.oce.com/.

How to Access the Spot Layer Tool

1. Open a print job in Preflight.
2. Select the Color Corrections tab.
3. Click on Tools and select Spot Layer Tool. This will open the feature set.

Note:
If the Enable checkbox won't activate, the media you used to open the job has not been configured with the Quality-Layered print mode. Create or Edit your media to support spot ink in Media Manager before you open the job in Preflight (or download a white ink media model from the web site).



[104] Spot Layer Tool

4. Check Enable Spot Layer Generation to activate the tool.
5. Use the explanations of the Spot Layer Tool options at the beginning of this section to help you use the tool.

How to Create White Spot Data in Photoshop

Introduction

This section explains how to prepare images that include white spot data with raster-based image editing applications such as Adobe Photoshop®. In order to print with white ink, you must have a media properly configured for the use of white spot data (see the section, How to Create a Media for White Ink). This media model will include at least one layer configured as a white spot color.

To add spot color data to your image in PhotoShop, you need to create one layer within the image as a new spot channel. It is possible to have more than one spot element in an image, but each element must be on the same spot channel, and therefore have the same opacity level, or else ProductionHouse will treat the saved document as a separation file. CMYK is the preferred image mode as the actions required for spot data creation are simpler than those for RGB.

Note:
You can use raster-based image editing applications other than Photoshop as long as it has the ability to create spot channels.

Purpose

When you have a raster-based image and need to have select areas of that image show up as white when the media is non-white or clear or translucent, you can prepare a spot channel for the white data in Photoshop.

When to do

The first step in the white ink workflow is to prepare your source image to use the white ink channel. The white ink data must be designed entirely on a separate channel (either as a spot channel layer or a custom spot color) to be recognized by the Onyx RIP. The name you assign to this spot channel layer or custom spot color must be "Spot 1" and is the most important part of preparing the file. This named channel allows RIP-Queue to determine that the data in the source image needs to be output to the spot white channel. In preparing your file, only you can define what you want to print with "white ink" as part of your design and assign the color as described in this document. Using your graphic application program, the white ink data can be simple or complex and can range from vector shapes and text to halftone bitmap images.

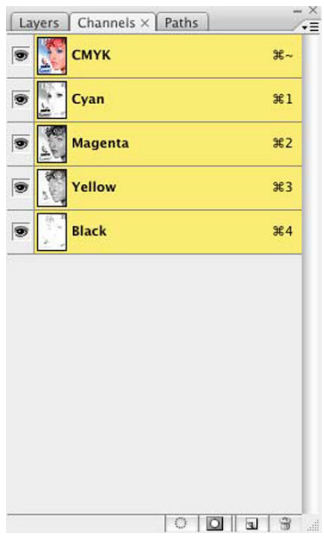
How to Prepare an Image in Photoshop

Use the following steps to create a new spot channel layer:

1. Open the desired file in PhotoShop (if the file is in RGB mode, then convert it to CMYK mode).
2. Use the desired selection tool (e.g. the Magic Wand) to select the area of the image you wish to print with white ink.

Note:
The image file used in this example is for illustration purposes only. For best results when working with text, we recommend that you use a vector-based program such as Adobe Illustrator.

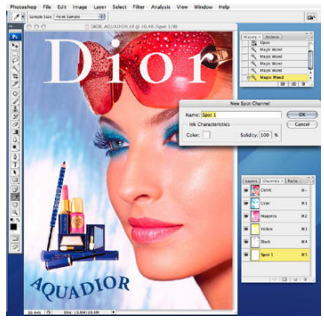
3. In PhotoShop, ensure that the Channels tab is visible (under the Window menu click Channels to view the panel).
4. Click the arrow on the Channels tab to display the Channels menu.
5. Select New Spot Channel from the Channels menu to open the Add Spot Channel dialog.



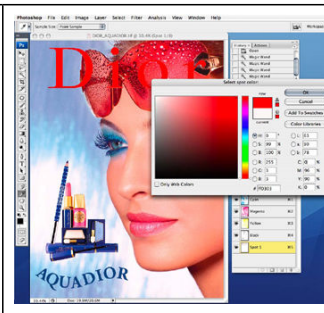
[105] Add Spot Channel

6. Within the Add Spot Channel dialog, enter the following information:

- **Name** – Enter the name “Spot 1”. This name is specifically reserved in RIP-Queue for this type of workflow, using any other name requires more steps to make spot information addressed by the Rip software.
  Note: For instructions on how to use a naming convention other than Spot 1, refer to the sub-section at the end of this section "Naming Your Spot Data".
- **Opacity** – Set the opacity to 10%
- Edit the channel **COLOR** by double-clicking on the swatch. Set the spot color in PhotoShop to a color similar to the spot ink in your printer. Since white can be hard to distinguish, this COLOR can be any value that will help you see the design better.



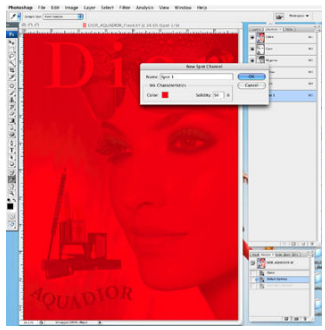
[107] Select Spot Color



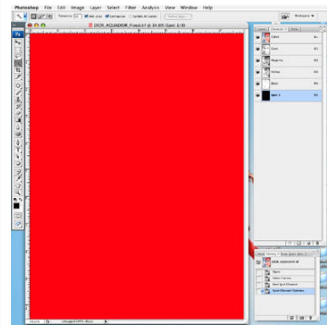
[108] Change Spot Color

7. Click OK to save your changes and close the Add Spot Channel dialog.
8. You can create a flood layer in the same way by selecting the entire workspace (Select All) and then add the spot channel as described above. The example below shows what your workspace may look like with a 50% and 100% flood fill. If you need to see your image for editing purposes, simply turn off the visibility of the Spot Channel.

Note:
When processing this file in ProductionHouse, media layers must be set up using a spot layer to represent this data, as program identifies this as a Spot layer, rather than a flood.

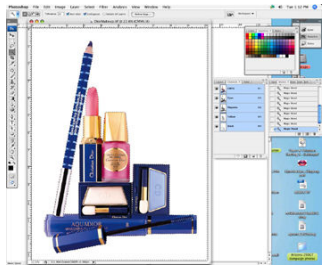


[109] Flood 50 PSD

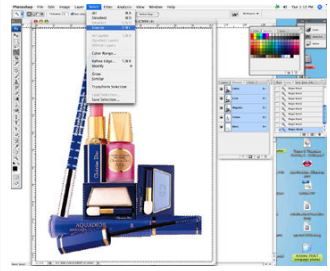


[110] Flood 100 PSD

9. In some cases, it may be easier to select the area in which you don't want any white ink data and then select the inverse.

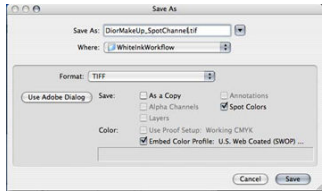


[111] Select



[112] Select Inverse

10. It is also possible to edit the spot channel much as you would any other data in a Photo-Shop document, making use of such tools as the Eraser.
11. Save your image as a either a TIFF or PSD format file (see the points below to determine the best format).



[113] Save with Spot Option

- If you intend to use this file in a vector-based program such as Illustrator, save it as a .PSD file in order for all channel information to be carried over. The white spot color is printed in the order it appears in the Channels palette, with the spot channel printing underneath CMYK data. However, when exported as a .PSD to Illustrator, this data will appear above the image data. This is the correct format protocol for Illustrator.
- Save as TIFF and ensure that the spot colors option is enabled if you plan to bring this image directly into ProductionHouse.
- It is also possible and sometimes preferable to print directly from PhotoShop to RipQueue. For instructions on how to do this, see document provided on the Onyx web site "Printing From a Mac", which also contains information on printing from Windows-based systems.

How to Create White Spot Data in Illustrator

Introduction

This section explains how to prepare images that include white spot data with vector-based image editing applications such as Adobe Illustrator®. In order to print with white ink, you must first have a media properly configured for the use of white spot data (''on page ?). This media model will include at least one layer configured as a white spot color.

To add spot color data to your image in Illustrator, you need to create one layer within the image as a new spot channel. It is possible to have more than one spot element in an image, but each element must be on the same spot channel, and therefore have the same opacity level, or else ProductionHouse will treat the saved document as a separation file. CMYK is the preferred mode as the actions required for spot data creation are simpler than those for RGB.

Note:
You can use vector-based image editing applications other than Illustrator as long as it has the Overprint feature and the ability to create a spot color.

When to do

The first step in the white ink workflow is to prepare your source image to use the white ink channel. The white ink data must be designed entirely on a separate channel (either as a spot channel layer or a custom spot color) to be recognized by the Onyx RIP. The name you assign to this spot channel layer or custom spot color must be "Spot 1" and is the most important part of preparing the file. This named channel allows RIP-Queue to determine that the data in the source image needs to be output to the spot channel, in this case the white ink channel.

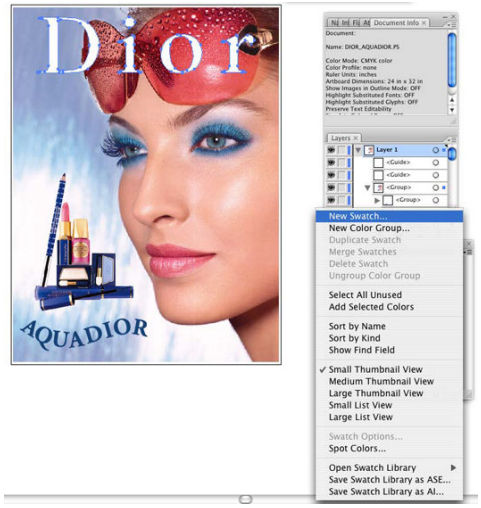
In preparing your file, only you can define what you want to print with "white ink" as part of your design and assign the color as described in this document. In Illustrator, the white ink data can be simple or complex and can range from vector shapes and text to placed bitmap images.

How to Prepare an Image in Adobe Illustrator

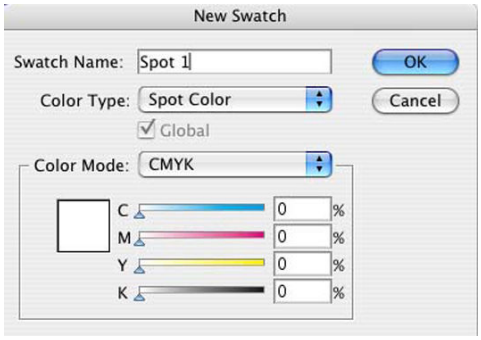
Use the following steps to configure an Adobe Illustrator file for use with white ink:

1. In Illustrator, ensure that the Swatches tab is visible (under the Window menu click Swatches to view).
2. Click the arrow on the Swatches tab to display the Swatches menu.
3. Select New Swatch from the Swatches menu to open the Add Swatch dialog.

4. Within the Add Swatch dialog, enter the following information:



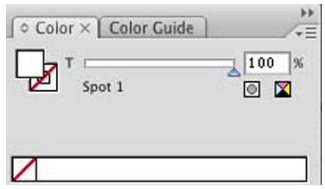
[114] New Swatch



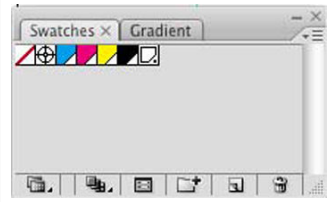
[115] New Swatch Name

- **Name** – Enter the name “Spot 1”.
  Note: For instructions on how to use a naming convention other than Spot 1, refer to the sub-section at the end of this section "Naming Your Spot Data".
- **Color Type** – Use the drop-down menu to select Spot Color.
- **Swatch Color** – Use the sliders to adjust the swatch color. It is best to choose a color similar to the spot ink in your printer. Since white can be hard to distinguish you can make this color any value that will help you see the design better.

5. Click OK to save your changes and close the Add Swatch dialog. You should now have a new Spot color in your swatch palette, which is indicated with a small dot on bottom right side of swatch.

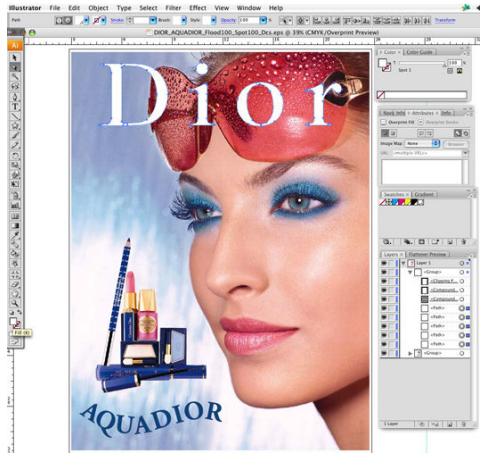


[116] Color Swatch



[117] Spot Swatch

6. Use the new swatch for any objects or fills which need to be printed with white ink. Clicking on new spot color swatch will make this the default fill color for this document. Select element you would like to be treated with Spot information and choose the fill swatch. See the example below.



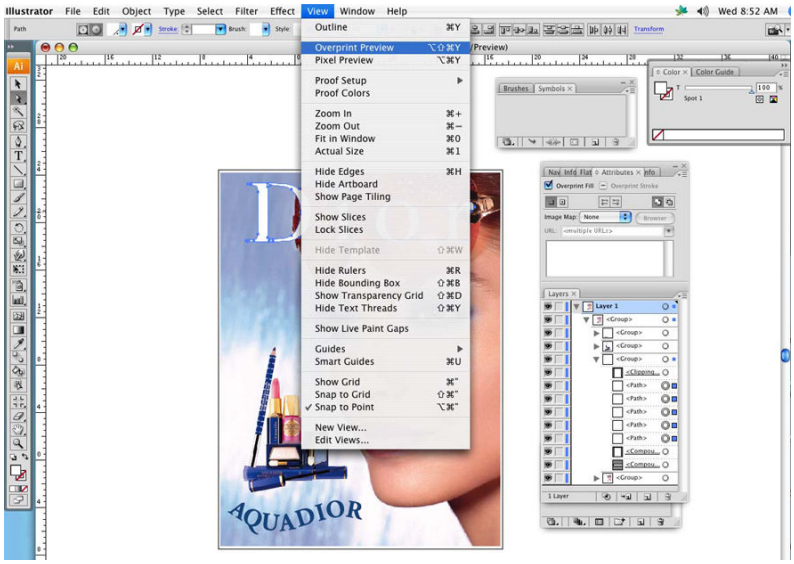
[118] Select Spot Fill

7. Once you've configured your source image with white ink as your new spot color, save your work.

How to Overprint Spot Data in Illustrator

By default, when you print opaque, overlapping colors, the top color knocks out (cuts a hole) in the area of colored image underneath. Overprinting prevents knockout and allows the colored image data to print over top of the other color being used, which in this case is white. You will want to overprint when the artwork needs to be printed over top of white, usually if the substrate material is non-white and therefore white is required to accurately render image data.

1. Select the white ink object or objects that you want to overprint and place these above the image data layer that you would like to print. Or if you want them on the same layer the white ink objects should be in front of the image data.

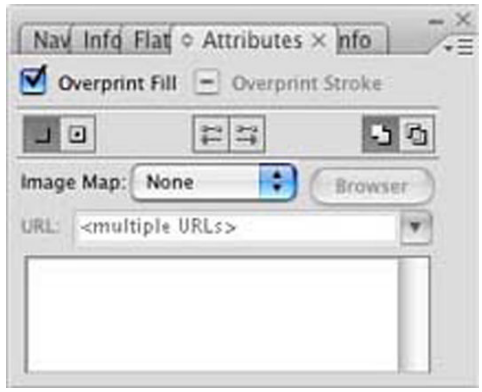


[119] Overprint Preview

Note:
After you set overprinting options, you should use the Overprint Preview mode (View > Overprint Preview) to see an approximation of how the overprinting colors will print by providing an "ink preview" that approximates how transparency and overprinting will appear in output.

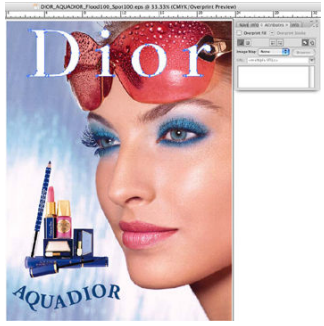
2. In the Attributes panel, select Overprint Fill, Overprint Stroke, or both.

Note:
While it is possible to set Overprint opacity levels less than 100%, ProductionHouse software only processes full opacity data. The opacity of regular knockout white data can be set as desired.

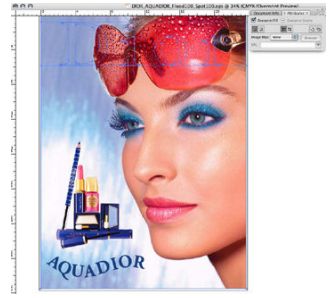


[120] Overprint Attributes

The images below shows white spot data with knockout and overprinting. In this case the spot data is meant to knockout in order to appear as white in the final document.



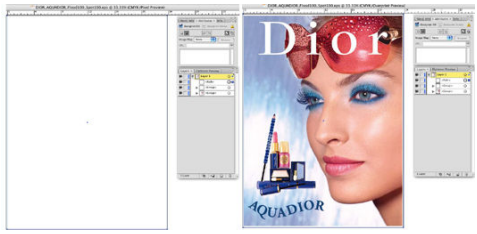
[121] Knockout



[122] Text Overprinting

White Flood Fill Layers
If a white flood layer were required in this file, it would be necessary to place flood data above the image data layer in order for the Rip to properly process the Spot data. In this case, you would need to select Overprinting, in order for image data not to be obliterated by white flood. To properly view the image ensure that Overprint Preview is selected. See images below for a representation of how this will appear.

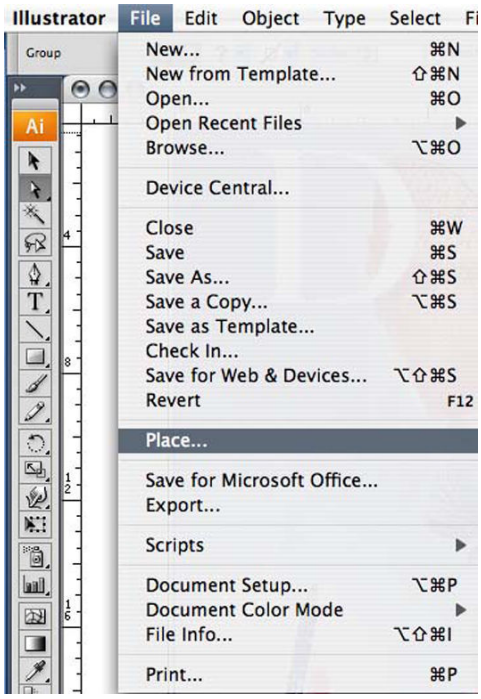
Note:
When processing this file in ProductionHouse, media layers must be set up with a spot layer to represent this data, as Illustrator identifies this as a Spot, rather than a flood layer.



[123] Pixel Preview Flood

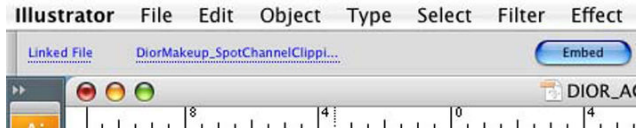
How to Place Raster Images in Illustrator

1. Begin by placing the desired file. We recommend using .PSD files.

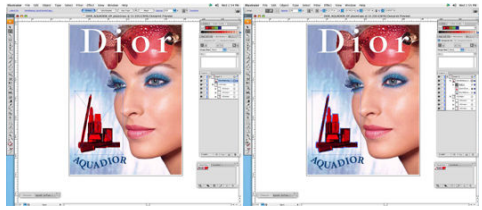


[124] Place File

2. Once the file has been brought into program, click the Embed button to place it in the Illustrator document. This step is necessary in order to make use of all channel data contained in the file.



[125] Embed File



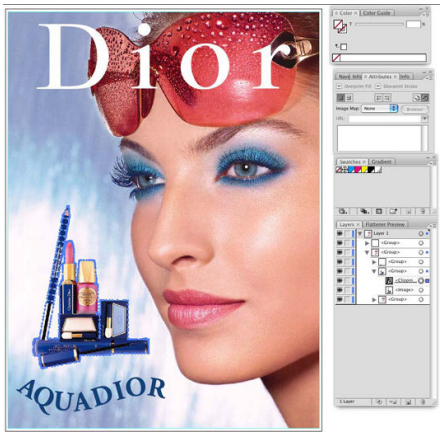
[126] Embed Placed

3. Note the information contained in the layers palette for file before and after embedding. Spot Channel data now resides in the layer above the image data, which is the necessary protocol in Illustrator.

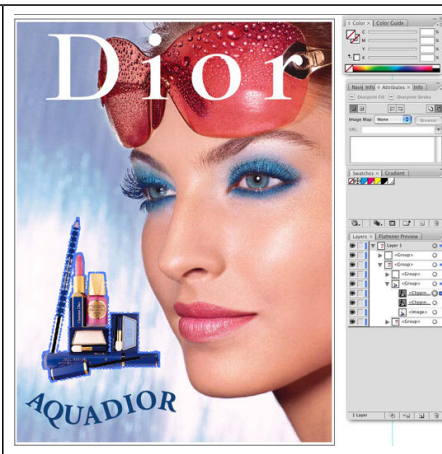
How to Create a Spot Channel Path in Illustrator

Conversely, you may place a raster file in your Illustrator document and create Spot data in Illustrator using the path creation tools. Create your path using the data as your guide and once the path is completed, fill this path with your Spot 1 color. This filled path should be placed above image in layers palette. In this particular case, the complexity of the selection path may dictate it's creation in PhotoShop, and Illustrator may be better used for simpler objects.

1. First, select your clipping path and make a copy of it.

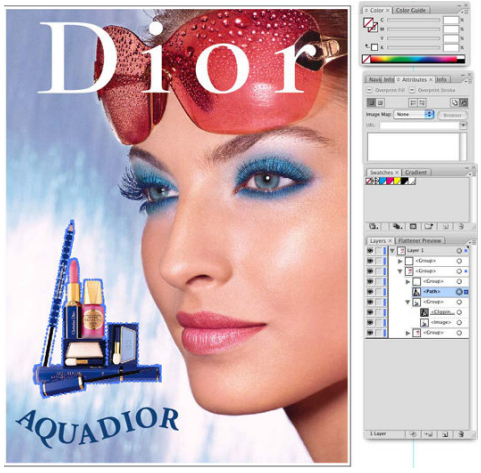


[127] Select Clipping



[128] Copied Path

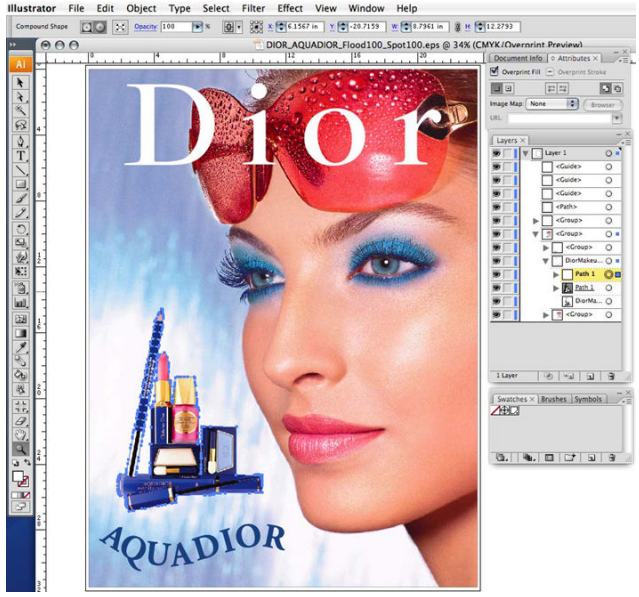
2. Then move the new layer outside of the group it is in to un-link it from the clipping path.



[129] Moved Channel

3. Once outside the group, make sure path is selected and fill it with your Spot 1 color.

4. Once that is done, replace path in the group above the image and clipping layers. Ensure that Overprint is turned on.



[130] Replace path in Group

5. Save the file.

Note:
In testing, we have found the .eps file format to be the best. However, Postscript and PDF files will work as well, but may require some additional setup. Make sure that when you save the file, "Preserve Overprints" is enabled.

It is also possible and sometimes preferable, to print directly from Illustrator to Rip-Queue. For instructions on how to do this, see the Onyx web site for a document called "Printing From a Mac" (it also contains generic information on printing from Windows-based systems).

6. Open the file in ProductionHouse.

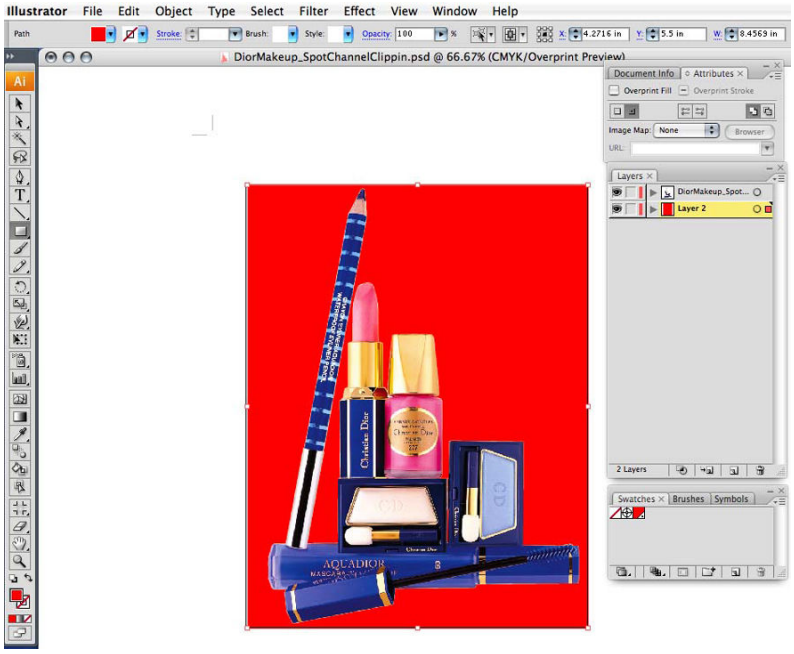
How to Set Up a File for Preflight's Spot Layer Tool

The Spot Layer Tool in Preflight can also make masks for data, and in some cases may be the preferred method of spot layer creation. To ensure that mask selection is made in Preflight without selecting those parts of your image that are of the same color, it is necessary to create a layer in Illustrator to serve as the mask.

1. Create a box around your image using the Rectangle Tool or other appropriately shaped box tool.
2. Make sure this new box is selected and select Fill swatch located at the bottom of the Illustrator toolbar. This will fill the box with color. By double clicking on this swatch a dialog box will open allowing for color changes. Ensure that the chosen color does not appear anywhere in your image. For this example we have used red (composed of 100% Cyan and 100% Yellow).
3. Place this rectangle behind your image data, either underneath or in a new layer below. It is not necessary to choose Overprint attributes for this layer.

Result

The prepared file should look similar to the below example.

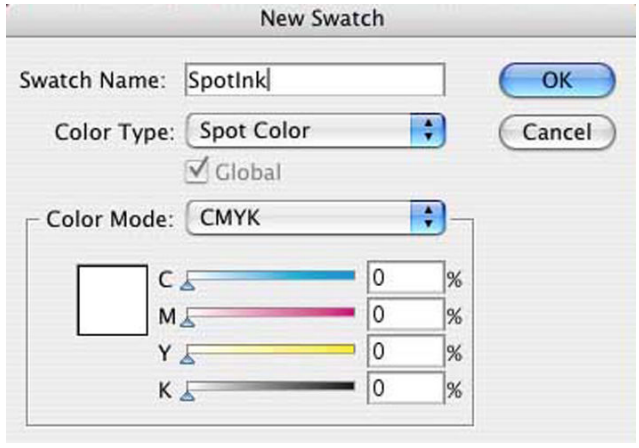


[131] Red Mask

How to Name Your Spot Data

In order for ProductionHouse to correctly distinguish and address Spot data, naming conventions for this data must be adhered to both in the image editing creation stage and the Rip. While using the default name "Spot 1", is the simplest route requiring the fewest number of steps, there may be instances when using something other than this is desirable. For instance, when data is created by one individual and printed by another, naming spot data may make desired output results more clear. As well, if English is not your native language, use a name that is more meaningful in your language to be more effective. Please do not use the name "White" as this color flags ProductionHouse to be treated in a particular manner not desired for this workflow.

1. When you create a new Spot Swatch in Illustrator, edit the name and replace it with your preferred name.

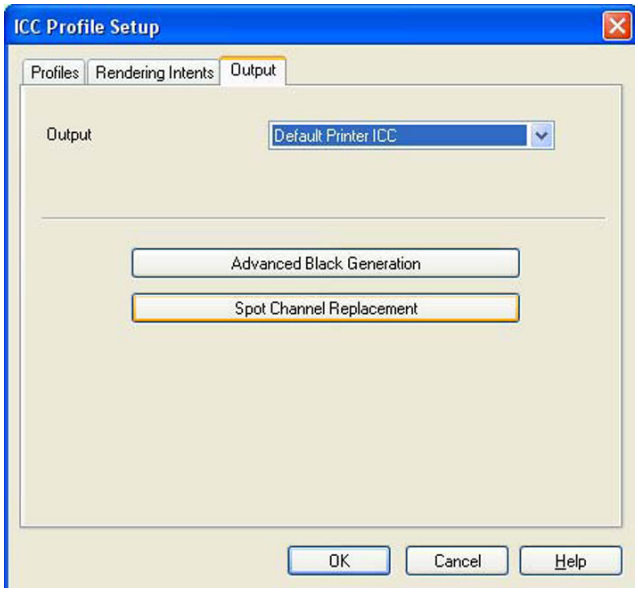


[132] Spot Ink Swatch

2. Edit the media to be used for this data in Media Manager, replacing the default name Spot 1, with your newly created name.

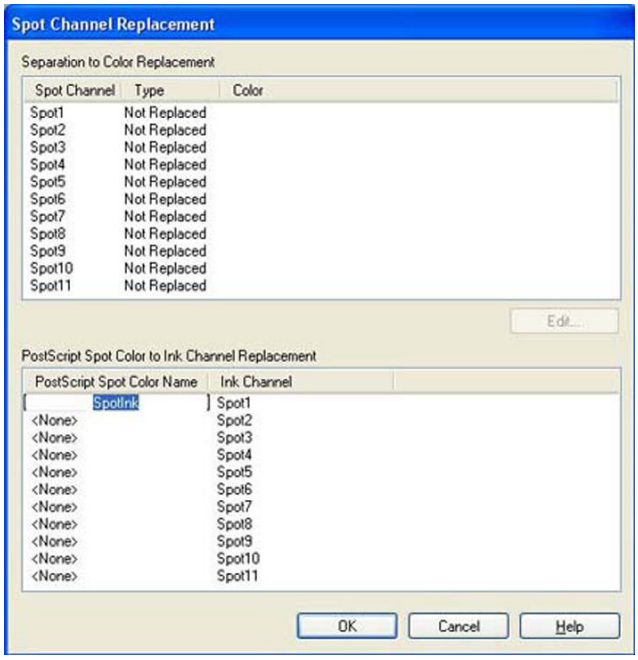
[133] Change Name

3. Open file in Preflight and access the Color Management/Edit Profiles tab. Click on Spot Channel Replacement box.



[134] Spot Channel Replacement

4. Enter the new name in PostScript Spot Color Name in Spot 1 space.



5. Click OK to save your settings.

How to Use Media Models

How to Create a Media for White Ink Print Jobs

Introduction

You must have a media model that is configured for white ink with the Quality-Layered print mode selected before you can successfully generate white ink output from ProductionHouse. This section will explain how to create a new media model with all of the necessary configurations. You can also edit an existing media model to change some of the settings and then save it with a new name.

Note:
ONYX ProductionHouse uses the term "media" to refer to what is called a "media model" in this manual.

The creation of media models and profiling is a complex procedure that is only partly explained here. If you are not comfortable with the procedure, you can use the pre-defined media models posted on the DGS web site in the Customer Support area at http://dgs.oce.com/. These media models provide a good start point for the white ink workflow. However, we recommend that you create your own new ones to ensure optimal success with your particular white ink workflow.
If you want to skip the media creation process, you can go directly to the "How to Print with White Ink" section for instructions on how to use the media models supplied on the web site. However, you will be limited by the particular white ink workflow and the media that those models support. Also, unless you simply want to use a white flood fill, you will need images that are prepared with white spot data (see the nearlier section, How to Prepare Images for White Ink).

Note:
Most of the media settings can be overridden in Preflight or RIP-Queue, if desired.

Purpose

The media you create for white ink use is actually a description of how you will use that media in the white ink workflow. It includes a white spot color channel and a description of the layers in the image and the order those layers will print. The media you create is actually part of a media model (sometimes referred to as a profile) that contains other specific information such as ink restrictions, linearization, ink limits and ICC profiles. This section will look briefly at how to create and use a media model, but the main focus

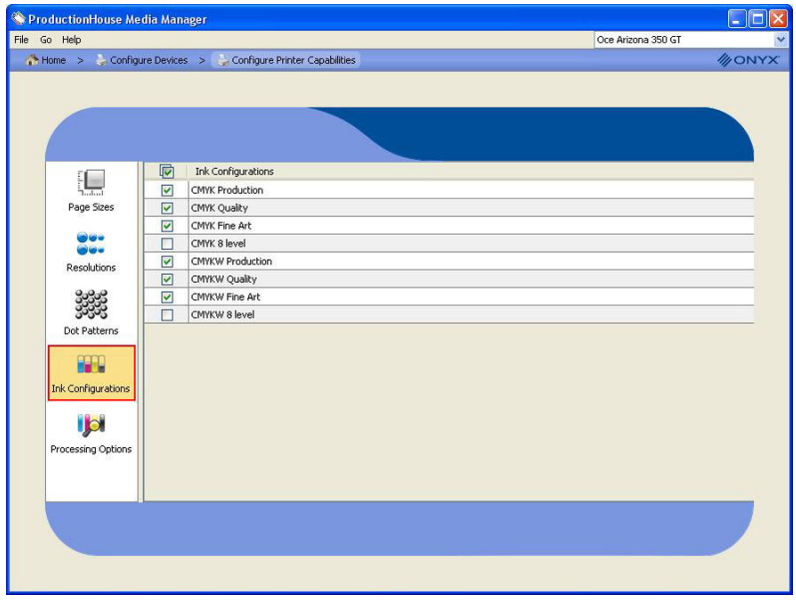
is on how to create the media. The media is essential to white ink workflow, and the rest of the media model creation simply ensures optimal image quality.

Note:
The term "media" can be confusing as it really has two meanings in the context of your Onyx workflow. In general use it refers to a physical material that you can print on. ProductionHouse uses the term media to refer to the definition of how a particular material is used and included within a media model that you define and then use when you open a print job.

Before you begin

Before you create a new media you must set up your printer to enable white ink configurations in Onyx Media Manager.

1. In the RIP-Queue, highlight your printer and click > Media Manager.
2. Click > Configure Devices > Configure Printer Capabilities and enable the white ink configurations (CMYKW) from the ink configuration menu.



[136] Configure Printer

Your printer is now enabled with an ink configuration that supports white ink. You only have to set this up one time unless you add a new printer to ProductionHouse.

Note:
The next section will show you how to create a media model that is configured for white ink printing.

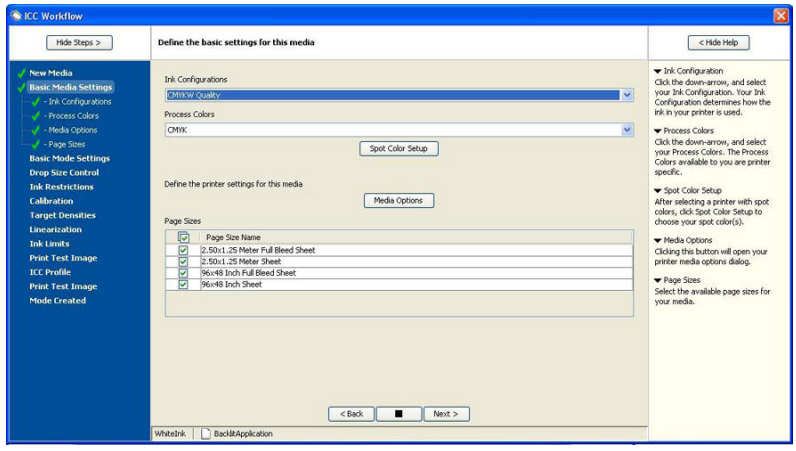
3. Return to the Media Manager Home page.

How to Create a Media Model for White Ink

1. From the Home page in Media Manager click > Create Profiles > Create Media
2. Select the Media Group (or create a new one) and enter a Media Name, then click > Next.

Note:
Media Group is a convenient way to organize media with similar characteristics together. Provide a name that will remind you of those common elements. Media Groups contain various Media Models. You could create a group that contained media models with different setting for the same physical material. Or you can group together various media models that have something in common, for example the media models provided on the Customer support web page belong to the group "WhiteInkUsageMedias".

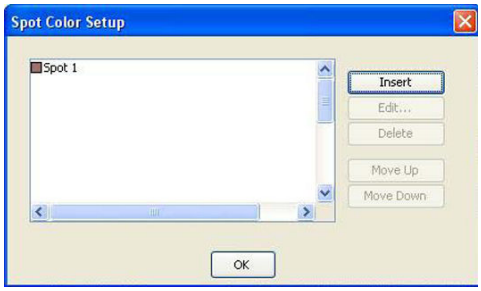
3. Select the CMYKW Quality Ink Configuration from the drop-down menu.



[137] Set Quality Ink Configuration

Note:
In order to make use of the multi-layered print mode, the Quality-Layered Mode must be used. It is also possible to generate white flood data with limited functionality in one layer using the Production, Quality and Fine-Art CMYKW modes. The CMYKW print mode should not be used with files containing both white and CMYK data in a single layer print mode, as the results will be of poor image quality.

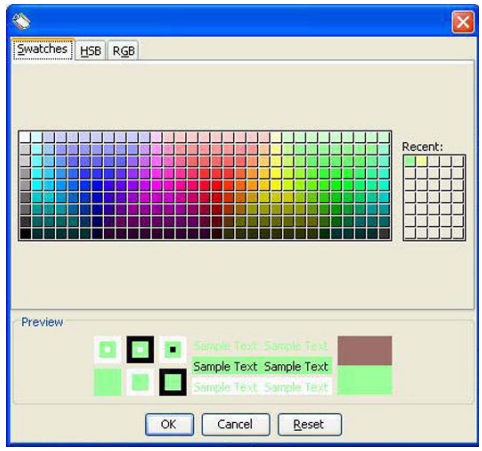
4. Select CMYK for the Process Colors option.
5. Click > Spot Color Setup.
6. Click > Insert to add “Spot 1” to the Spot Color Setup dialog.



[138] Insert Spot1

7. If you want to change the preview color of your spot layer, highlight “Spot 1” and click > Edit .

Note:
If you change the name of your Spot color to anything other than Spot 1, the data file you prepare for this media must also make use of the **exact same spot color name**. Also, this name must be set up in Color Management/Edit Profiles/Spot Channel Replacement. Do not use the name "White" as that name will prompt ProductionHouse to treat it in a particular manner not desired for the white ink workflow.
The preview color chosen here will be used as an indication of Spot color layer usage in the Preflight preview. We suggest that you select a color that is easily recognized as non-image data, such as a fluorescent or pastel color. Also, if you use the same color for all your media configurations it will provide quicker identification of the spot data in Preflight.



[139] Spot Preview Color

Note:
The printer only has one available white ink spot channel, so do not insert a second spot or the Rip will treat files using this configuration as separations.

8. Click > OK.
At this point, the media you have created can be used in Preflight to view and Rip files for white ink output. You will be able to see where Spot white has been used in prepared files and work with Preflight's Spot Layer Tool. However, media at this stage is without those components of a media model that determine the optimal ink usage, such as ink restrictions and linearizations. Not utilizing these components will result in inaccurate color output and without an ICC profile your usable file color space is limited to CMYK. As well, not restricting your ink levels correctly may result in an increase in ink droplet misting issues.

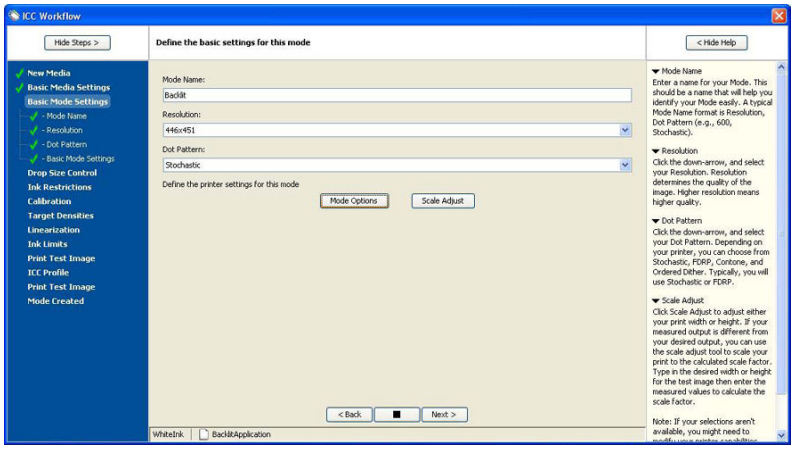
Note:
Most of the steps for creating a media with a white spot are similar to the regular workflow. Please do not attempt these steps unless you have experience creating media profiles. The profiling steps and color theory are not explained in detail and are not covered in this document.

9. For the best quality output results, we recommend that you continue building your media model as described below.

How to Configure Layers and Print Order

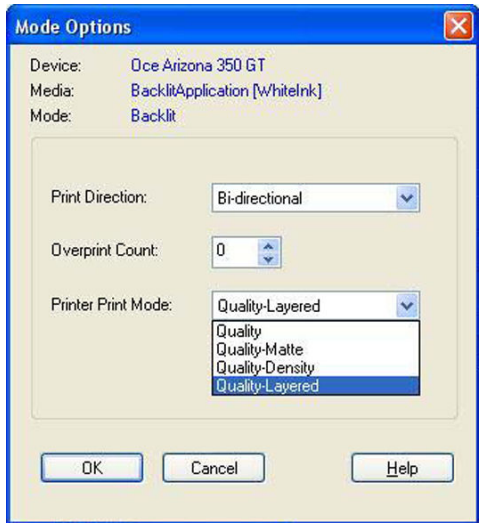
If order to make use of the multi-layered Quality-Layered print mode in your printer, you must configure your layers and also set what inks will print on each of the layers.

1. In Basic Mode Settings, click on Mode Options.



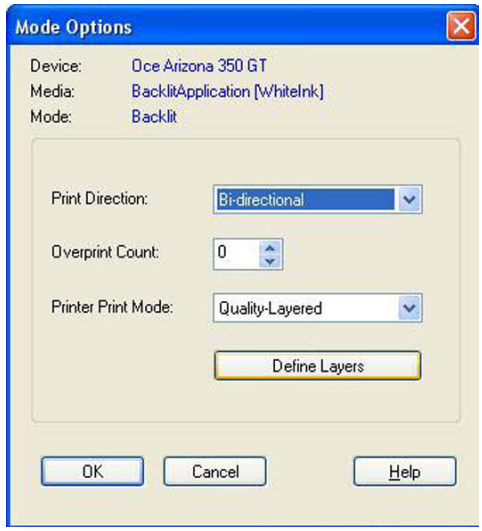
[140] Mode Options

2. In the Mode Options window, select the Quality-Layered Print Mode. Click OK to save these settings and close the window.



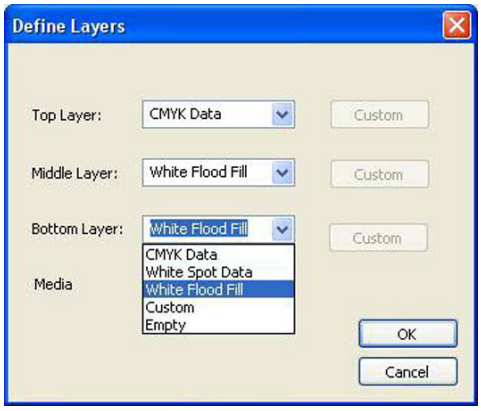
[141] Define Layers

3. Once you select a mode the Define Layers button appears under the Printer Print Mode.



[142] Define Layers

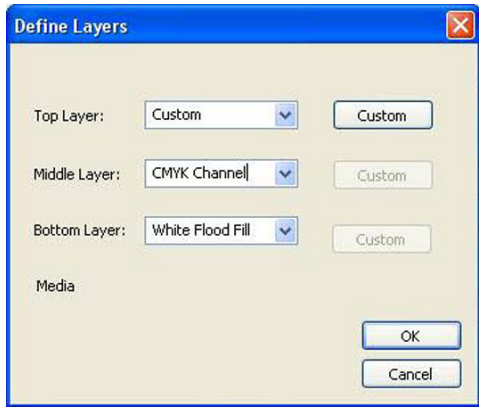
4. Click on Define Layers to open this dialog and the following window should appear.



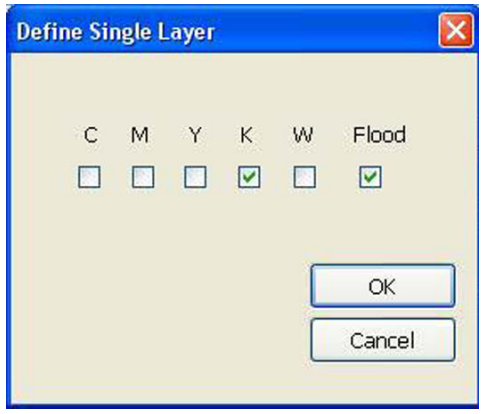
[143] Define Layers

5. This is where you can set up how you want the ink to behave in each layer. It is not necessary to use all 3 available layers; it is also possible to build a media using only one or two layers. The ink usage options for CMYK, White Spot and White Flood Fill data are set to default values. If you want to edit these layer options, choose Custom from the

drop down menu and click on the Custom tab to the right of this. This action will bring up the Define Single Layer window.



[144] Define



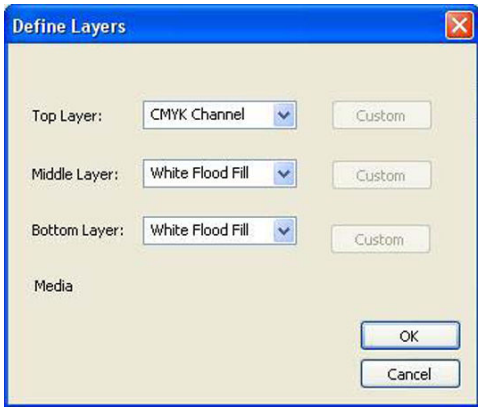
[145] Define Single Layer

Note:
The data used in the white spot layer needs to comes from the spot data found in the image you have created in an image editing program such as Adobe Illustrator. If you want to auto-generate spot data from your image, use the Spot Layer Tool in Preflight to create the data for the white layers. To generate white flood (or any color flood) it is not necessary to set up files in any special way prior to opening in Production House, simply choose a media configuration that has Flood Fill enabled.

Configure White Flood Layers

If you want to create linearizations and ICC profiles with a white underlay, we recommend you configure one or more flood fill white layers for white based on the desired opacity for your application and one layer for CMYK data.

1. Configure your layers for the white layer to print closest to the media.



[146] Configure Flood Layers

2. This configuration allows you to print your linearization and ICC target swatches directly from Media Manager with a white underlay.

Note:
You can always go back and change the layer configurations after you have completed the processes that requires such a configuration. Keep in mind though that if you use one or two layers of white it will affect output color rendering and overall density.

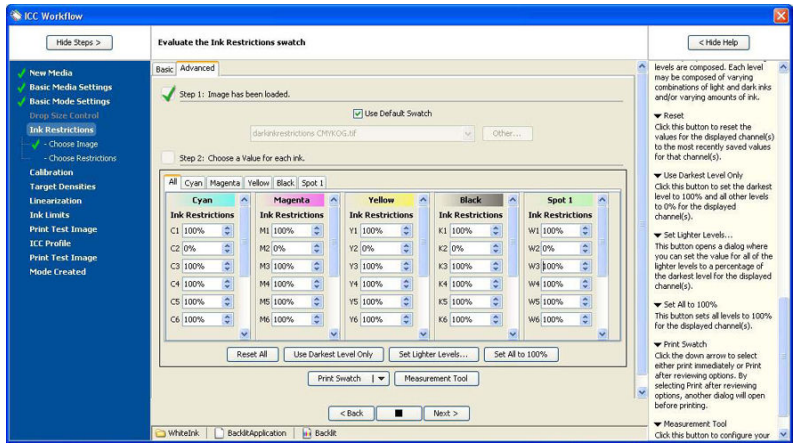
3. For the best color fidelity, create separate media models for one or two layers of white usage.

Set Ink Restrictions

When determining ink restrictions for your spot channel, use the following steps:

1. Print and review the default swatch from the Basic tab.
2. Set up Advanced Ink Restrictions as shown in the example as a starting point. For best results, we recommend leaving all Level 2 percentages at zero. Choose a value where the patch does not bleed or show any other objectionable artifacts and enter that percentage

in the Advanced tab in the Spot field. In testing, we have found this value is usually acceptable if left at 100%.



[147] Set Ink Restrictions

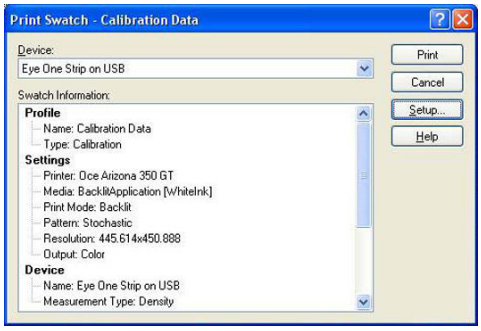
3. If you are printing on clear materials make sure the opacity is acceptable as well as exhibiting no over-inking artifacts. You may find that you will need to configure multiple layers as described earlier to get the coverage you desire. Determine the ink restriction values for your color channels as usual using either the density or chroma method. Depending on the swatch you reprint to verify your results, the spot channel may not be printed.
4. Click > Next to continue.

Calibration/Linearization

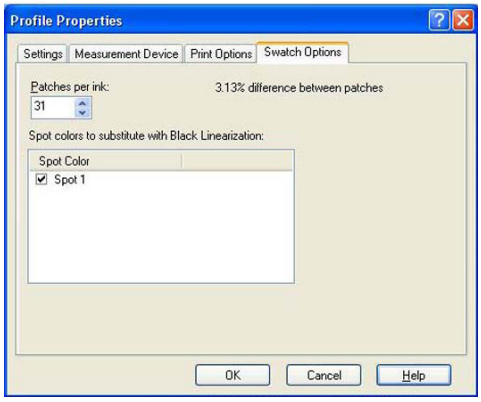
To print the calibration swatch:

1. Click > Print Swatch and select a manual hand-held strip device or spot color sampling device and click > Print.

Note:
If you use a strip device such as the Gretag-MacBeth EyeOne, you may get invalid readings for the white data. To ensure that you get usable spot data points for each measurement, you will need to use the data from the black channel. To do this, click on Setup in the Print Swatch Dialog. In the Swatch Options tab, click select Spot 1 to substitute with the black linearization information.



[148] Print Swatch



[149] Substitute White for Black

2. Once the swatch is dry, click > Read Swatch and Read Swatch again to open the calibration data table.
3. Follow the Strip letter and Patch number. If you have substituted the Black Channel for your white ink there are no additional steps necessary.
4. Click > OK to accept readings and click > Next to continue.
5. Click > Build Linearization as usual. Note your Spot Channel curve is now represented bearing the same curve as black. Continue on to the Ink Limits step.

Set Ink Limits

To print the Ink Limits swatch:

1. Click > Print Swatch and determine Ink Limits as usual. Look for bleed in the columns and choose a value where you can eliminate waste ink.
2. Click> Read Swatch and enter in the values in the recommended Advanced tab.
3. Click > Next to continue on to the ICC step.

ICC

Spot colors are NOT used in ICC processing so continue as usual if you want to create a profile. To print the ICC swatch:

1. Click > Print Swatch and select your color sampling device.
2. Click > Setup > Options if you want to choose a larger number of swatches for profile accuracy, otherwise click > Print.
3. Click > Read Swatch and read in the ICC data.
4. Click > Options to modify the settings, or click > Build to use the default build options.
5. Create a test Print and click > Next to continue.
6. Click > Finish.

Result

This completes the media profiling workflow and you can now use this media in ONYX ProductionHouse.

How to Use the Media You Created

Now that you have a media model with white ink, you may wish to edit and configure this media with different layer options. Keep in mind that using one or two layers of white will affect the output color rendering and overall density. It is suggested that separate media models be created for one or two layer white ink usage. To make a copy and edit a media:

1. Within Media Manager > View Media Library.
2. Select the media and click > Copy and rename the media.
3. Highlight the media and click > Edit.
   Conversely, to keep the size of the OMLs down you may want to select and copy the print mode only rather than the entire media folder. This method requires that you bring jobs into Preflight to change the print modes rather than simply choosing a different

media from Rip-Queue. Remember that changes to the layer order and ink color usage may also be made on a per job basis from Rip-Queue. Right click on the desired file then choose Edit/Printer Settings. A dialog box opens allowing you to re-define the layers here.

How to Create and Use Quick Sets

Introduction

This section describes how to create and use Quick Sets. A Quick Set contains a set of printer configuration parameters that are defined and then saved for use with print jobs that will benefit from that particular set of parameters.

When you edit and/or create a Quick Set you can customize it to meet your print setup needs. Quick Sets can dramatically increase your productivity since they can be designed to offer a predefined set of configurations to support the white ink workflow. Once you create a Quick Set you can copy and then edit it to create as many variations as required to support various workflow options.

Use Quick Sets to manage your jobs more efficiently. A Quick Set is a RIP-Queue tool that automatically applies your selected set of settings when you choose it for your print job. Quick Sets are convenient when working with white ink because they can be used to predefine the ink layer configurations and optionally can reference Filters that contain pre-defined Color Correction and Spot Layer Tool settings (think of the Filter as a group of particular Color Management settings that can be contained within a more general group of settings - the Quick Set). Once you create and apply Quick Sets to a print job, the job will have the appropriate settings automatically selected.

Quick Set Options Specific to White Ink Workflow

In the Quick Set dialog, you can click on any of the tabs to modify any of the Advanced Options. The options shown here are the ones that will provide the most benefit to white ink workflow productivity:

Quick Set Name

The Quick Set Name is the name that will appear in the RIP-Queue menu. If you edit the default Quick Set, you cannot change the Quick Set Name. Use identifying features in your Quick Set Names to help you pick the appropriate Quick Set later on. For example, if your Quick Set indicates 2 layers of white flood, including the term 2 Layer Flood in the name will help you correctly identify and use that Quick Set.

Note:
We recommend a standard Quick Set Naming Convention that helps to identify the print order of your layers in the following order; "Top Layer Definition"; "Middle Layer Definition"; and "Bottom Layer Definition". You can use shortcut terms like: 4c wf ws, or 4c ws 4c. You can also use longer terms like 4color whitefill whitespot, or wspot wfill CMYK to remind you of the order.

Media

Media includes the following settings:

- **Get Media and Page Size from Printer**
  Unselect "Get Media and Page Size From Printer" so that you can select the media, print mode, and layer definitions to be associated with the Quick Set. First select a media name that contains a Quality Layered Printer Print Mode, then verify/select a Print Mode that contains a Quality Layered Print Mode " Media Options"
- **Media Configuration Name**
  Choose the Media Configuration Name that best matches the media or ink configuration of the media you will use.
- **Media Options**
  Allows you to verify the Printer Print Mode is Quality Layered. From here you can select "Define Layers" to specify the layer definitions.
- **Media Name**
  Select the name of the Media that you want to use for this Quick Set. See section xxx for information on how to create a media.
- **Print Mode**
  Always select Quality-Layered Printer Print Mode if you want to use the layered printing capabilities of theOcé Arizona 400 Series XT.

Advanced Quick Set Options
To access the Advanced Quick Set Options click the Advanced button. The tabs you need to access for white ink workflow are:

- **Postscript**
  In this window ensure that 2-stage processing is turned off in order for Rip to successfully process your white ink data. Note that the default setting is to not use Two Stage Processing so it is not necessary to check this each time you create or edit a Quick Set based on the defaults as long as it has not been enabled in the Default Quick Set.
- **Color Correction**
  This area will link to an existing Filter that has been exported from Preflight's Color Correction area. From Preflight you can export all the settings made using the Spot Layer Tool or any other Color Correction parameters as a Filter for use on files to be prepared for white ink printing. When you link to a Filter the Quick Set will use the same set of parameters that were present when you exported it from Preflight.

Note:
Many of the Quick Set and Filter settings for a job can be overridden in RIP-Queue or Preflight, if desired.

How to Create or Edit a Quick Set for White Ink

1. In ProductionHouse RIP-Queue select your printer, and click on the Configure Printer button. This opens the Configure Printer dialog.
2. From the Quick Sets tab, select the Quick Set you want to edit or copy (or select New to build one from defaults).
3. If you are going to edit an existing Quick Set, Click on Edit. This opens the Edit Quick Set dialog.
4. Make any modifications to the Quick Set that you want to make, and click OK.

Note:
As a shortcut, click the Edit Quick Set button on the toolbar to edit a Quick Set. However, you cannot change the Quick Set Name when you use this method.

5. Use the reference material in the start of this section to guide you in the Quick Set configuration.
6. To use any of the Quick Sets that you created, when you open a file in ProductionHouse you can select a Quick Set from the File, Open dialog box.
7. You can also create a Filter that will save any of the current Spot Layer Tool settings. The Filter will also include any of the other current setting under the Color Correction menu. The Filter will be available for future use with Color Correction or it can be used in a Quick Set.

Chapter 10
Ink System Management

Arizona Printer Inks

Introduction

Océ Arizona printers use two types of UV-curable inks, referred to as Océ IJC255 and Océ IJC256. Both inks are easy to maintain, requiring daily maintenance with a vacuum suction device and a weekly physical cleaning (swabbing) of the printheads. The Océ IJC255 White ink and all of the Océ IJC256 inks require small jetting actions ("spitting") between printing times to keep the printheads in a ready-to-print state. This spitting action amounts to very little ink usage but does require that the user clean the maintenance tray covers more frequently. Both type of ink include Cyan, Magenta, Yellow, Black, and for printers with the option installed, White. Due to the UV curing technology, the ink dries immediately, but can take up to 24 hours to cure fully. In most cases, the printed material may be handled or cut directly after printing.

When printing with the Océ IJC255 compared with the Océ IJC256, imaging results will be different, – not better or worse but always different. Océ IJC256 has lower dot gain characteristics than Océ IJC255. As a result, there is the potential for more structure and streaking in solid colors and for more image artifacts in areas of heavy coverage (dark colors) with the new formulation. This is especially apparent on many paper-based media used for most indoor applications such as foam board, corrugated cardboard, card stock and poster paper. Océ IJC256 inks also have a softer surface when cured and printed materials are less scratch and smudge resistant. Océ IJC256 inks feel slightly "tacky" when cured and have a more satin finished appearance when compared to the semi-gloss finish of Océ IJC255 inks. This can be a benefit to distant-viewed applications where glare, caused by the semi-gloss finish of the original Océ IJC255 inks, can be a visual distraction. This particular characteristic is highly subjective and will be appreciated by some customers but not all.

Maintenance Considerations

Because the IJC256 ink formulation is more sticky than IJC255, the printhead area will pick up more debris from media and the environment, so cleanliness is important. More frequent performance of maintenance may be necessary. Also, printing with IJC256 ink results in a more sticky ink build-up between nozzle plates so they require cleaning with a flush-soaked, rather than a dry, lint-free cloth. Ensure that any residual flush is cleaned from the surface because particulate matter from the environment and from media surfaces will be re-deposited if there is fluid on the nozzle plates. Also, contact with flush can damage the printheads.

IJC256 inks require regular spitting in order to keep nozzles clear for jetting (IJC255 ink only requires spitting with white ink). This spitting occurs in the maintenance station at set intervals and ejects ink onto an absorbent foam pad. This foam pad must be changed as it becomes saturated or else the ink being jetted will not be fully absorbed. The pad

will repel the ink that is not absorbed, especially if the pad is incorrectly placed too close to required openings. This rebounding ink will be re-deposited into the surrounding area and cause soiling of printer components as well as a greater concentration of ink particles in the air.

For more details on the characteristics of the two ink types and comparisons of their features, see Application Bulletin 28 - "Selecting Appropriate Océ Ink for Your Applications: Océ IJC255 or Océ IJC256" on the customer support web site at http://dgs.oce.com/.

These inks have very little odor, but for optimal safety some ventilation is needed. The printer should operate in an area where a good standard of general ventilation is available at 5 to 10 air changes per hour. Mechanical ventilation must be added where the air changes are under 5 per hour. Refer to the Site Preparation Guide for minimum space/working room volume for the printer.

Note:
Read the section on ink safety called "Safety Guidelines for Ink Material" before you handle the ink.

The printer is optimized for the specific UV-curable ink supplied by Océ Display Graphics Systems. The ink is supplied to the printer in 2 liter collapsible bags that are loaded into the printer by means of quick-change connectors that are bonded into the top corner. To install on the printer, the bags are inverted and the quick connect couplers are pushed into their corresponding female coupling. This opens up the flow path for the ink. The bags contain tags that identifies them to the printer when they are loaded. This allows the printer to ensure that the correct ink is loaded.

This method of ink delivery has several benefits over bottles or cartridges:
The self-collapsing bags make it easy to see how much ink remains in each bag.

- Virtually all the ink is successfully extracted from the bag by the printer, reducing the otherwise costly waste of usable ink.
- Ink changes are performed without mess or spills, keeping the environment around the printer clean.
- Ink changes can be performed during printing - this prevents wasted prints and lost time.

Only qualified inks can be used. If a bag of ink with an invalid serial number, expired use-by date, incorrect color placement in the ink bay, or if an expired tag is connected to the printer, then the operator is alerted and an error message is displayed.
The ink delivery system provides the printheads with ink at the appropriate temperature and pressure. Each printhead has a corresponding ink reservoir on the carriage. Pumps supply ink to the reservoirs on demand. Sensors in the reservoirs control the level of ink and initiate demand when required. Ink temperature control is achieved by pumping a

coolant fluid through the printheads. An internal thermostat on each printhead provides temperature feedback.
The condition of the printheads is maintained by periodic cleaning at the maintenance station on the gantry. During this procedure the operator suctions the printhead nozzle plates, removing ink and possible contaminates in the process (details of this procedure are available in the Maintenance section).

Caution:
Uncured ink is a serious health and safety risk! Avoid skin contact with ink and wear safety glasses with side shields and Nitrile rubber gloves when handling ink.

Attention:
Do not install inks that are not certified by Océ Display Graphics Systems for use in this printer, as this may result in poor quality prints, uncured ink in the finished prints and permanent damage to the ink pumps, filters, ink lines or printheads.

Note:
The UV lamp power settings can be lowered to reduce warping of some media. However, set the lamp power as high as possible for each media to ensure that the ink cures properly. This will minimize the risk of skin irritation and sensitization from exposure to uncured ink. Wear nitrile gloves when you handle printed media if you suspect the ink is not properly cured.

Illustration

[150] Ink Bags in the Ink Bays (Primary and Secondary)

Ink Filters

The UV ink in your printer is protected from contaminants in the ink by means of ink filters. These are easily accessed and can be replaced by the operator when they become blocked with debris (see the Maintenance section "How to Change Ink Filters"). The expected average lifetime for a filter is approximately 12 months or 11 bags of ink (22 liters). However, some filters can last longer and some will require more frequent replacements due to the ink color (pigment) and varying rates of use.

Note:
A loss of pigment when printing a nozzle check or long ink fill times indicates that a filter is clogged and must be replaced.

How to Store and Handle UV Ink

To ensure good quality images and to extend the life of printheads in your printer, it is important to have good UV ink management procedures. UV inks must be properly handled and stored correctly.

- Inks must be stored within a temperature range of 5 - 30°C (41 - 86°F). Exposure to extreme temperatures will reduce the expected life of the ink.
- Do not use ink that is past the expiry date displayed in the Ink System Status menu (click the Ink icon in the Print Job Control module to view the ink menu).
- Store in cool, dry place and keep away from heat and direct sunlight.
- Perform Printhead Maintenance every day before printing.
- Swab the printheads with UV Flush at least once a week (and as needed) to dislodge any potential buildup of particles or ink.

Access to MSDS Ink Information

MSDS (Material Safety Data Sheets) for each color of ink and the UV Flush are available from the corporate Océ Global E-Marketing (GEM) website. For the latest MSDS and PSDS, visit: http://global.oce.com/support/. Read and periodically review this safety information to ensure optimal safe handling procedures and proper emergency responses are followed when using UV inks and flush. See also Chapter 3 "UV Ink and Flush".

How to Change Ink Bags

Introduction

The ink is supplied in 2 liter or 800 milliliter bags, dependant on the printer model (White ink comes in 1 liter bags for all models). The bags have a non-spill coupler bonded into the top corner. When installing onto the printer, the bags are inverted and the quick connect couplers are pushed into their corresponding female coupling - opening up the flow path for the ink. If a bag of ink with an invalid serial number, expired use-by date, incorrect color, or expired tag is connected to the printer, the operator is alerted.

When to do

An ink bag can be replaced at any time. Ink bags should be replaced if:

- The printer displays an "Error: ink fill timed out" message. This does not necessarily mean that the ink bag is empty, but if you see it, check the level of ink remaining and change the bag if needed. If you see the message and there is still ink in the bag, place a service call.
- The operator sees that the bag is empty.
- An ink bag is nearly empty and the operator wants to leave the printer unattended during a long print and does not want the ink to run out. The nearly empty bag can be reconnected and used up later when the operator is present.

Note:
An ink bag can be changed during a print job. it is not necessary to stop the printer.

Before you begin

Safety Information - Use appropriate safety equipment - nitrile gloves and eye protectors. Take precautions to avoid ink on your skin or in your eyes.

Caution:
Be sure to read the section on Safety Guidelines for Ink Materials before handling UV inks. Also, read the MSDS sheets available from the Customer Support web site for more detailed information on ink safety and handling.

Illustration

[151] Remove the Quick-Release Coupler

How To Change an Ink Bag

Attention:
For personal safety, we recommend that the operator always wear nitrile gloves, a protective apron, and safety glasses with side shields when handling inks.

1. Open the clear plastic door on the Ink Station.
2. Identify the the ink bag to be replaced.
3. Press the quick-release coupler button at the bottom corner of the ink bag.
4. Unhook the bag from the top of the ink station.
5. Replace with a new ink bag of the same color.
6. Push the quick-release coupler at the bottom corner of the new bag into place.

Note:
If you place a bag in the wrong ink station (for example, yellow ink in the black ink station) the display will show an error message and the printer will not print until the correct bag is installed.

Chapter 11
Error Handling and Troubleshooting

Troubleshooting Overview

Introduction

This section covers general problems that may occur with the printer. Malfunctions that trigger system error messages can be caused by human error, a system malfunction, an interface cable malfunction, mechanical printer malfunction and/or printer firmware failure.

Definition

Printer Errors

Some errors are problems that interfere with the print process but do not shut down the printer completely. Typically, these errors are problems that prevent starting a printing job or that interrupt the current print. You should be able to fix these errors without a service call. Other errors stop the printer and prevent operation until the error is resolved. The printer interface informs you as to what is wrong by displaying an error message on the LCD display. If the error message has an obvious solution, apply the appropriate remedy. Otherwise note the exact error message and associated error number and what the printer was doing before the error, then place a service call.

Basic Troubleshooting

Troubleshooting helps you locate the source of errors and fix common problems that can arise during printing.

Troubleshooting Areas:

- Printer behavior
- Print quality
- Data transfer

Example 1

If There is No Power

Is the printer connected to a working power source?

The service should be a dedicated supply that is not susceptible to voltage fluctuations. This service must be provided via an independent, double pole, fused circuit breaker and a circuit ground (computer grade) located near the machine. The service should meet all local and national standards for this type of installation. The circuit breaker should be clearly labeled, indicating the On and Off positions, such as '1' for On and '0' for Off. A suitable air gap should be maintained for safe electrical isolation when in the Off posi-

tion. The printer relies on this service for primary branch protection. If the printer is without power, check the local supply voltage and verify that it is set correctly.

Example 2

Drops of Ink Appear on the Media

- Check that the ink valves on top of the carriage are all open. If an ink valve is closed, there is no vacuum pressure to hold the ink and it will drip out of the printhead.
- Check that there is no hair or other debris on the underside of the carriage. Objects can accumulate ink mist and result in small drops of ink.

If Problems Persist

If problems persist, perform the following actions as appropriate for the situation:

- Check for media that is buckling or sitting too high on the table.
- If you just changed ink in the printer, review the procedures in this manual and check for successful installation.
- Try printing a test print.
- If the printer is not receiving print jobs, check the network cable connection.

Note:
If you still have problems, contact your Océ Display Graphics Systems service representative.

Call for Service

Try to eliminate simple problems before you call your service representative. However, it is important to know when to call for service. Without training, servicing the printer yourself may cause further damage. When you have determined that a service call is required, call as soon as possible. Have the following information ready:

- Printer serial number — located near the AC power plug.
- Error message displayed on the control panel, if any.
- The exact circumstances when the error occurred, such as during printing, or maintenance.
- Note any unusual phenomena, such as peculiar printing, noises, and smells associated with the failure.

How To Improve Quality When Banding Occurs

Introduction

Banding can occur in an image for a number of reasons. Typically it occurs due to neighboring nozzles that do not fire or multiple nozzles that fire with poor directionality. This can occur if the printer sits idle for an extended period of time (e.g., overnight or longer), or if debris has been picked up from the media or table by a printhead. If this happens, perform the Printhead Maintenance procedure to clear the affected printheads. If banding is evident, print a nozzle check to identify which nozzles of a particular print head are not firing. After you perform the printhead maintenance, print another nozzle check to confirm whether the problem has been fixed.

If a print shows banding and a nozzle check print shows more than three separate nozzles out or two or more adjacent nozzles out, the following procedures for recovering clogged nozzles is recommended to improve image quality.

Note:
Keep the table surface clean and ensure the media is clean and free of dust to help reduce banding. Use an anti-static brush, if necessary. Also use a micrometer to accurately measure the media thickness so the proper printhead gap between the printhead and the media is used. If the printhead gap is less than it should be, there is a greater probability of picking up debris on the printheads

Recovering Clogged Nozzles

When banding appears in an image and nozzle dropouts appear in the Nozzle Check print, we recommend that printhead maintenance is performed. In some cases it may be beneficial to print an image file after maintenance, to exercise the firing of the nozzles, then run the Nozzle Check again.

If some nozzles are still out, perform a purge of only the printheads with nozzles out. To do this, close the ink valves of the colors that don't require a purge, then purge to remove excess inks.

If dropouts still persist, you can also swab the printheads.

Chapter 12
Printer Maintenance

Maintenance Guidelines

Introduction

The printer operator is responsible for the regular maintenance of the printer. This section provides detailed information about what is required for proper printer maintenance.

While Océ Display Graphics Systems furnishes guidelines for periodic maintenance, the optimum maintenance schedule evolves from careful observation of your printer over a period of use. For example, some specified maintenance may be required each time you use a particular media. The type of print job can also determine the maintenance schedule. If the printer produces a high volume of solid fill prints, it requires more tending than if it prints low-coverage images. Océ Display Graphics Systems requires that the operator follows minimum cleaning and replacement guidelines as described in this User Manual.

A few minutes spent cleaning helps to ensure the highest quality prints. Each production situation is different and involves different types of print jobs, environmental conditions, duty cycles, and volume of work. While we provide guidelines for periodic maintenance, the optimum maintenance schedule depends on operator observation of the printer over a period of use.

Attention:
Keeping the printer clean, especially all parts associated with the printheads, assures that your printer performs at its optimum and makes it easier to diagnose a problem, such as a leak. Daily cleaning of all mechanical parts on the printer is highly recommended.

Who Should Do Maintenance?

If your site has a technician in charge of machine maintenance, that person is the optimal candidate. While routine maintenance may be performed by any trained operator, the best maintenance results from familiarity with the printer's internal operation and history.

Operator Maintenance Schedule

Your printer requires regular maintenance. Periodic cleaning should be scheduled for some components during the week. A few minutes spent cleaning ensures the highest quality prints. Several areas require maintenance to ensure the highest print quality, and the printer design gives you easy access to all these areas. Diligent application of the maintenance schedule ensures optimum performance from your printer.

Note:
Do not bump the carriage or gantry as this can cause dropouts in the printhead nozzles. A hard bump can break the meniscus vacuum in the ink lines and thus allow air into the lines, which blocks the nozzle until a purge is performed. Also some procedures, such as Printhead Maintenance, require that you slide open the door to access the maintenance station. Do not bang the door hard when you close it after maintenance.

The following table provides our recommended maintenance schedule. This is a minimum requirement and some procedures may need to be done with greater frequency. Each of the procedures is explained in detail in this section in the order of frequency required as presented in this table.

Maintenance Frequency

Procedure	Frequency
Clean Carriage Underside	Daily and as needed
Printhead Maintenance	Daily and as needed
Swab Printheads	Weekly and as needed
Clean UV Lamp Filter	Weekly and as needed
Remove Ink from Table	As needed
Empty the Waste Tray	Monthly and as needed (or when ink overflows!)
Refill Coolant	Monthly and check weekly
Clean Gantry Rails	Monthly and as needed
Change Ink Filters	Yearly, or after 11 bags of ink, or if pigment looks weak
Reprint the Rulers	When the rulers become unreadable
Change both UV Lamps	When curing is insufficient
Change Coolant	Yearly (requires a service call)
Maintain White Ink	Daily, Weekly and, as needed

Maintenance Procedures

Clean Carriage Underside

Introduction

To maintain optimal print quality, it is important to periodically clean the underside of the carriage to remove any excess ink. If the buildup of ink is excessive, it can be transferred to media and thus reduce print quality.

When to do

As part of the daily maintenance at the start of the day, or as needed, clean any ink that has accumulated on the underside of the carriage.

Note:
The accumulation of ink on the carriage underside is caused, at least in part, by static particles from the media. Dust particles and other debris from the media surface tend to attract ink mist when they have a static charge. To remove particles and to reduce the static charge buildup on the media, use a tack cloth and lightly rub the media surface before you print. You may also need to install a humidifier if humidity is below the required minimum defined in the Océ Arizona 400 Series GT Site Preparation Guide (30% to 70%, non-condensing is the suggested range for operating the printer).

Before you begin

Make sure the carriage is in the parked position. The carriage and gantry automatically return to this position after an image is printed.

It is not necessary to turn off the UV lamps as they are shuttered. However, they will be hot if they are on, so avoid touching them.

Required tool

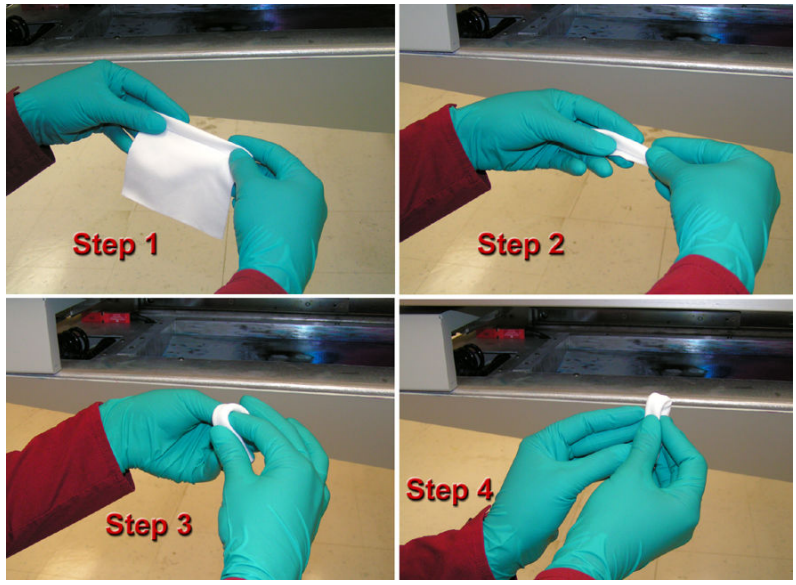
- Cloth-Poly Wipe 10cm x 10cm

Note:
Safety glasses with side shields, nitrile gloves and a protective apron must be worn when you handle ink.

Caution:
The underside of the UV lamps may be hot, avoid touching them.

How to Clean the Carriage Underside

1. Slide the maintenance station drawer out from under the carriage.
2. Press the middle switch to raise the carriage to its maximum height.
3. Prepare a clean poly wipe cloth as shown below.



[152] Prepare a poly wipe cloth

Attention:
In the next step, make sure that you do not touch the nozzles of the printheads. If you happen to touch one with the cloth, you must perform printhead maintenance. Note that contact with a printhead by any object other than the suction-head used for maintenance can cause damage to the nozzles and result in poor image quality or possibly require a printhead replacement.

4. Slide the cloth along the metal plate between the first two printheads to remove any ink that has accumulated.

Note:
The Océ IJC256 ink formulation causes a more sticky ink build-up between nozzle plates when compared to Océ IJC255 ink. This ink build-up requires cleaning with a lint-free cloth wetted with flush, rather than a dry one. Follow up with a dry cloth to ensure that all residual flush is cleaned from the surface. This ensures that the flush will not attract particulate matter from the environment and media surfaces, which can be re-deposited on the recently cleaned surface.

[153] Clean the nozzle plates between printheads

5. Reposition the wipe so that a clean area is exposed.
6. Proceed to the next space between printheads and slide the clean area of cloth along the metal plate.
7. Repeat steps 3 to 6 until all ink is removed from the spaces between printheads. Use a new cloth wipe, if necessary.

Note:
Check for ink on a daily basis, especialy at the end of the day in case ink has accumulated on the nozzle plates. If ink is left to long it will dry and be very difficult to remove.

8. Slide the maintenance station drawer to the closed position (unless you are going to also perform printhead maintenance).

Printhead Maintenance

Introduction

The Maintenance Station is located below the carriage. Printhead Maintenance takes place while the carriage is parked. The station is covered by a sliding door that has an open grid in the center that allows any waste ink to drip down through the station and into the waste tray. When you perform printhead maintenance, any excess ink and associated debris are removed from the nozzles with the result that ink drops can jet properly when the nozzles are clear.

Ink fill is disabled when the maintenance station sliding door is open. No more than 4 purges can take place (minimum of 10 seconds between purges) without closing the cover plate and allowing the reservoirs to refill. Multiple purges are not required.

Note:
The nozzle plate on the printhead has a non-wetting coating - contact with this surface may affect the performance of the printhead. Do not wipe the nozzle plate with anything other than the suction-head (or the supplied swabs when following the swab procedure) as this can damage the nozzles and impair performance.

Purpose

To clean the nozzles of the printheads and thus ensure better image quality and avoid banding.

Note:
The complete Printhead Maintenance procedure is documented in a video production that illustrates all of the steps involved and also explains why it is important to perform regular maintenance. The video can be viewed from the main Customer Support page and is also available to download: http://dgs.oce.com/.

When to do

Maintenance occurs at the start of the day (after the printer has warmed up) or when necessary (misfiring nozzles, banding in image, etc.).

Note:
More maintenance is required in dusty environments, or when there are fibres protruding from the media, or when printing on reflective media such as glass or metal (more reflected UV light hits the printheads). When printing on reflective media it is advised to monitor the nozzle check and printhead nozzle plates and to perform additional printhead maintenance, if required, to prevent ink from partially curing/gelling on the printhead nozzle plates.

Before you begin

Make sure the carriage is in the parked position. The carriage and gantry automatically return to this position after an image is printed. Do not move the carriage or gantry from this position as this will disable the ink pumps and thus prevent the performance of an ink purge, which is necessary for printhead maintenance.

Note:
It is not necessary to turn off the UV lamps as they are shuttered. However, they will be hot if they are on, so avoid touching them.

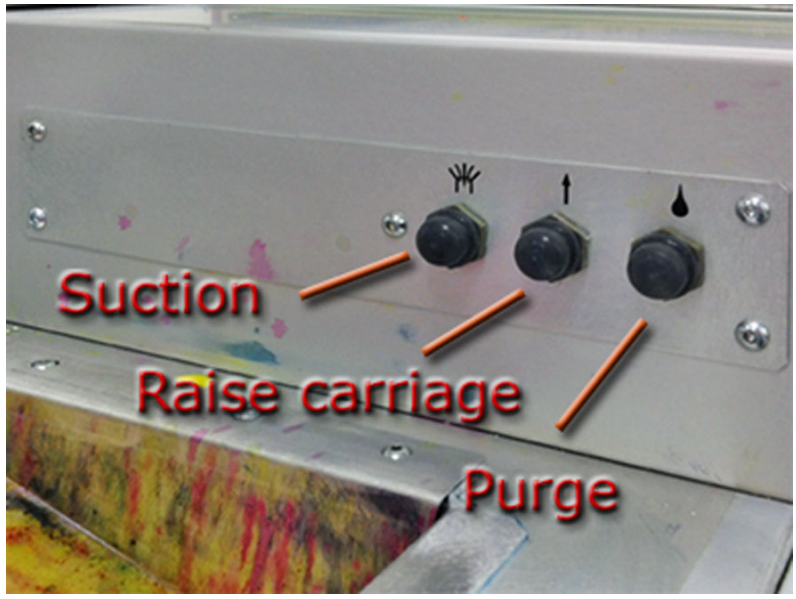
Ink must be at the operating temperature of at least 40° Centigrade (104° Fahrenheit) before you perform printhead maintenance. The Job Control module displays the ink temperature. If the temperature is low, activate the ink heater by clicking the icon and then monitor the temperature display.

Caution:
Safety glasses with side shields, a protective apron, and nitrile gloves must be worn when performing maintenance.
UV inks may cause sensitization by skin contact. If any ink contacts your skin, immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor. Avoid contact with the eyes and skin. Wear a long-sleeved shirt or other covering when performing printhead maintenance.
The underside of the UV lamps may be hot, avoid touching them. Also, be aware that the carriage moves up and down during printhead maintenance and there is a crushing hazard if your hand or arm are placed in the area above the three switches.

Attention:
Do NOT press up too hard on the printhead while you swipe it with the suction-head as this can dislodge the printhead and require a service call to re-seat the printhead.

Note:
Maintenance Station Switches:
There are three switches inside of the maintenance station . They can be operated in any order. For example, you can press the middle switch to raise the carriage to remove debris from the underside of the carriage even when a purge isn't required.

Illustration



[154] Maintenance Station Switches

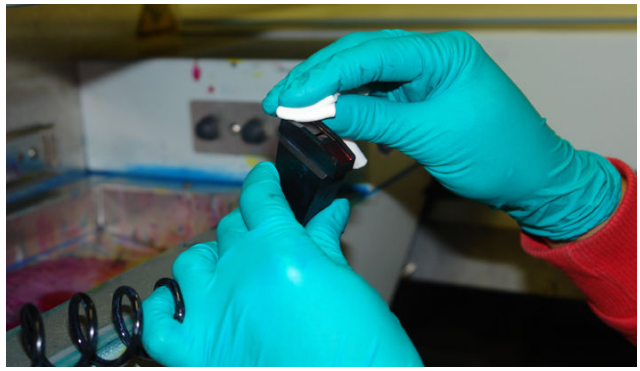
Left switch to activate suction pump	Middle switch to raise carriage	Right switch to start an ink purge

How To Perform Maintenance

1. Verify that the ink temperature is at least 40° Centigrade (104° Fahrenheit) before you begin printhead maintenance.
2. Slide the drawer out from under the carriage to reveal the maintenance station.
3. Press the Purge button to initiate a purge. The carriage will lower to its purge height (4mm above the table surface). Watch the ink as it falls from the heads. After a few seconds most of the ink stops dripping and you can then raise the carriage.
4. Press the middle button to raise the carriage to its maximum height.

Attention:
Be careful not to snag the coiled suction-head hose when removing the suction-head from the holder.

5. Press the Suction button to turn on the suction pump. Pick up the suction-head from the tray at the left end of the maintenance station. Wipe the suction-head with a new, clean lint-free wipe to remove any particles that could damage the nozzles in the printheads.

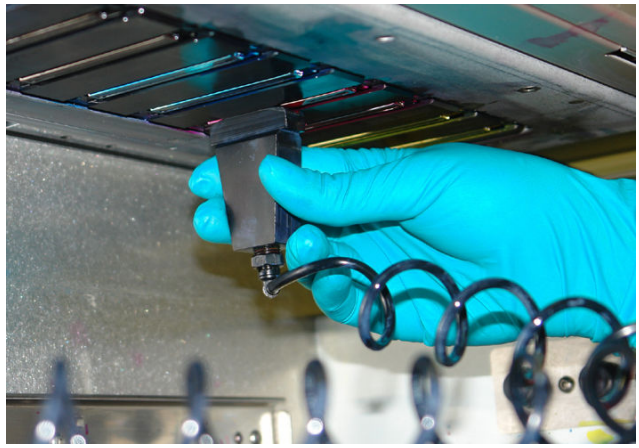


[155] Clean Suction-Head

Note:
In the next step, start with the left printhead and work to the right as this limits the possibility that drops of ink will fall onto the coiled hose. Also, do not push up too hard on the printhead as you may dislodge it and this will require a service call to fix.

6. Slide the suction-head slowly along the entire length of each printhead at a speed of approximately 8mm per second (8 seconds per printhead). The suction-head slides on

stainless steel strips on the printhead. Check to see that all ink is removed – repeat if necessary.



[156] Swipe Printhead

7. Wipe the suction-head on a clean piece of new lint-free wipe before proceeding to the next printhead.

Note:
During maintenance, be careful not to touch the nozzles or the nozzle plate as this can damage the printhead.

8. Slide the maintenance station drawer back to its closed position. The carriage will move back to its previous print-ready height.
9. Print a Nozzle Check to evaluate print quality.

How to Print a Nozzle Check

The Nozzle Check print fires each nozzle individually in a manner that allows clogged nozzles to be easily identified by a visual inspection of this special print. The Nozzle Check has been designed to fit on a piece of media that is 36" (91.5 cm) and is 2.125" (5.4 cm) wide. Since you are likely to print more than one when you diagnose nozzle problems, make sure your media is wide enough. To calculate the required offset when you print multiple consecutive nozzle checks, add a horizontal offset of 2.5" or 60 mm to each consecutive print.

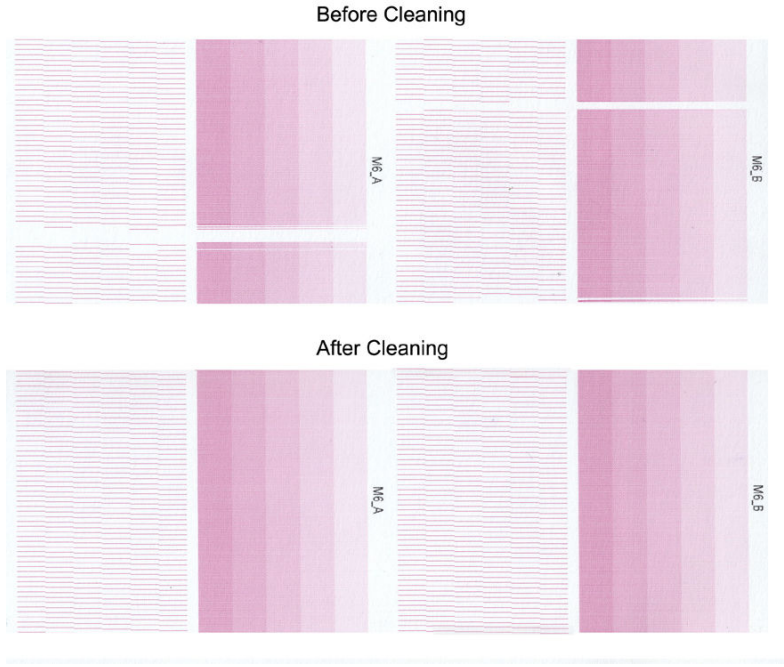
Note:
When you print on the RMO, if the media width entered is less than 1067 mm (3.5 ft) the standard nozzle check will not fit across the media. In this case, if the Nozzle Check icon is selected from the Print Job Control command toolbar, the narrow version (Nozzle Check Narrow 886.5 x 214.7 (2.9 x 0.70 ft)) is automatically added to the print queue.

1. Place a piece of Océ I/O paper on the printer table (or use the RMO, if available).
2. Select the Nozzle Check icon at the right end of the Command Toolbar to place the nozzle check into the Active Print Job list (you can also add a Nozzle Check to the active print list when you select it from the Special Prints module).
3. Confirm media thickness.
4. Activate the table vacuum.
5. Push the printer Start button to begin the print.
6. Print an image to make sure there is no banding or other print quality issues.

How to Evaluate a Nozzle Check

1. The Magenta section of the Nozzle Check print example shown in the figure below indicates that multiple nozzles are out.

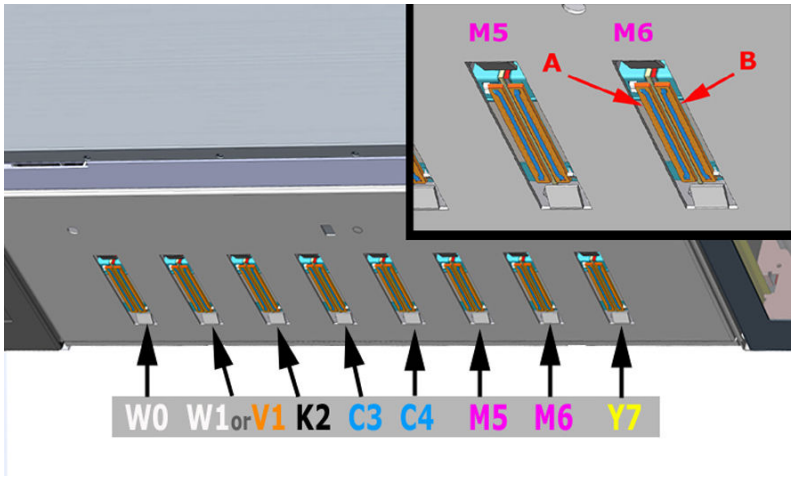
Note:
This is an extreme example to illustrate the problem. In most cases you will likely see only two or three nozzles out.



[157] Nozzle Check Print Magenta

2. In the above example, Magenta printhead 6 has nozzles that are not firing properly in both Package A and B . It also show a new nozzle print after the printhead was cleaned.

The illustration below shows the printhead order and the relationship between the printhead location and the labels on the nozzle check print. This helps to identify the printhead where the nozzle outs are located.



[158] Printhead Layout

Note:
Based on the perspective shown in the illustration, Package A is always the row of nozzles on the left side of a printhead and Package B is always the row of nozzles on the right side of a printhead

3. Once you have identified the particular printhead that has nozzles out as indicated by the nozzle check print, you can perform the following procedure to correct the nozzle dropouts.

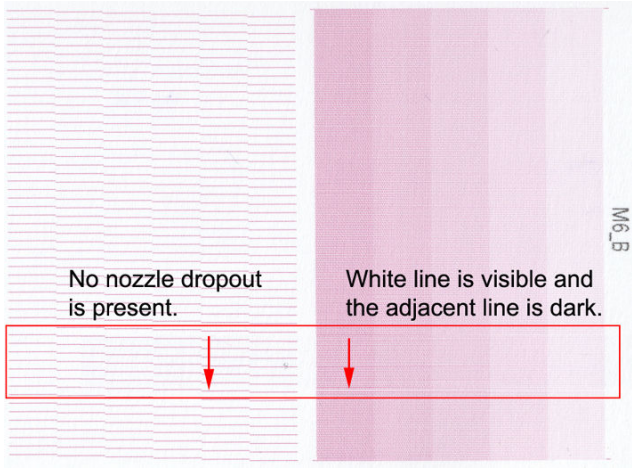
How to Correct Nozzle Dropouts

1. If there are only a few nozzle dropouts per printhead try suctioning the affected printheads again without purging. If many nozzles are out, perform Printhead Maintenance again.
2. Print another nozzle check and repeat step 1.
3. If nozzle dropouts still remain, swab that printhead.

Result

When a printhead does not have any dropouts, it will look like the Nozzle Check print illustrated below.

Note:
However, in this case there is an indication of mis-direction in one of the nozzles illustrated by the white line.This may not affect image quality, but it could, if multiple adjacent nozzles have this problem. If it does show up in a print job it will require a service call to adjust the printhead.

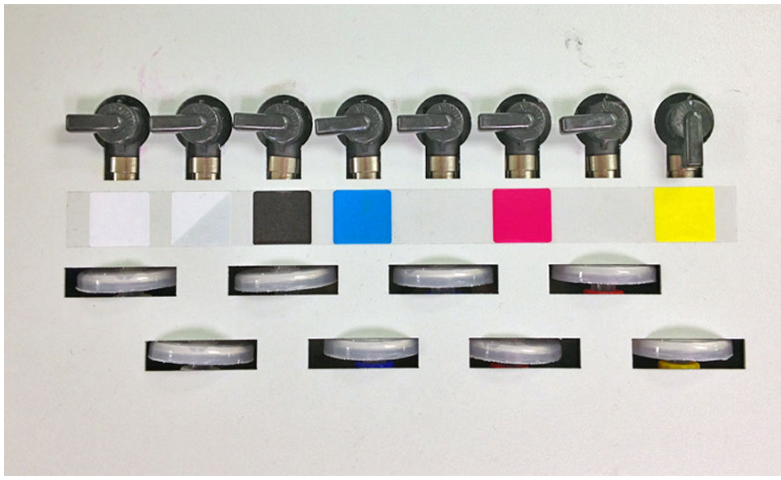


[159] Poor Directionality in a Magenta Printhead

Maintenance for Select Printheads

1. On the top of the carriage there are manual purge valves. If you have performed printhead maintenance and find that one or more printheads require additional maintenance, turn off the valves of all the other colors, and leave open the one you want to clean (yellow in this example).
2. Perform all of the steps for printhead maintenance again, but only on the affected printheads.

Note:
Isolating individual colors to purge does not perform a stronger purge, but it does conserve ink.



[160] Purge Valves with Yellow Turned Off

3. Remember to open any purge valves that were closed for this procedure.

Note:
If a purge valve is left closed, there is no vacuum pressure to hold the ink and it will drip out of the printhead. Drops of ink will appear on the media if you print with purge valves closed.

4. If problems still persist, perform the swab procedure on the affected printhead (see the next section).

Swab Printheads

Introduction

To ensure optimal print quality, it is important to periodically clean the printheads with a swab to remove any excess ink or any debris that was not removed by Printhead Maintenance.

Purpose

Important Caution: To maintain print quality it is very important to swab the printheads at least once a week, or more frequently, if required. Failure to do this may result in **permanent printhead damage**.

When to do

At the end of each week, clean the printhead nozzles using the swabbing procedure. This procedure may also be used when regular printhead maintenance fails to fix blocked or misfiring nozzles or to remove debris from the printhead.

Note:
If UV ink has fully cured on a printhead it must be replaced. Contact your Océ service representative.

Before you begin

Print a Nozzle Check to determine if any nozzles are not firing properly. This will help to determine whether some or all of the printheads must be swabbed. You can also do a visual inspection of the nozzles (use a flashlight if the ambient room light is not adequate). A small bottle (125ml) is supplied with the printer accessory kit. Label this bottle as "Flush" and use it only to hold flush for use during the swab procedure. To prevent contamination of the flush in the bottle, never re-dip a used swab in the flush.

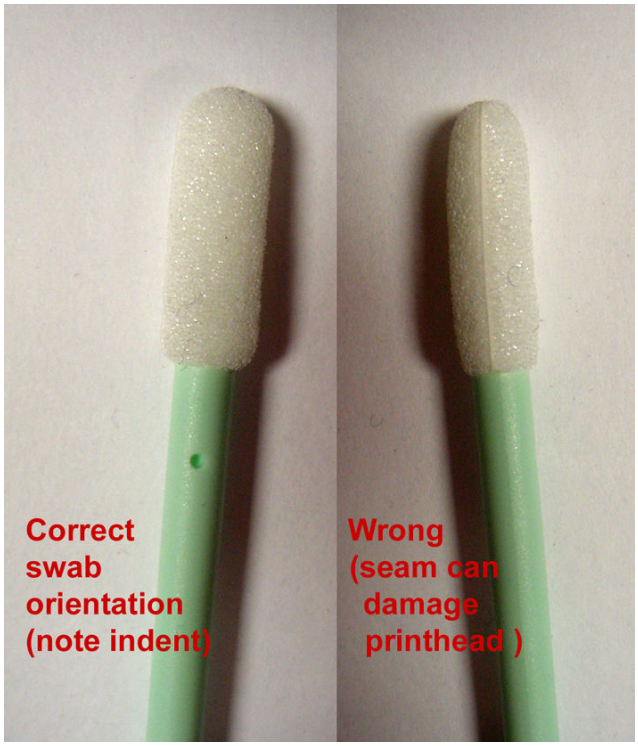
Required tool

- Foam Tipped Swabs (3010105434 Swab Foam Flex Tip)
- Flush (3010106646 Flush UV 1Liter)
- Bottle-HDPE 125ml for flush (3010105433)
- Nitrile Gloves
- Safety Glasses with side guards

Attention:
Never "scrub" the printhead with a swab as this will drag debris into other nozzles.
Always slowly move the swab across the printhead with the swab at a slight angle and not perpendicular to the printhead.
Never use Isopropyl alcohol to clean the printheads.
Do not allow swabs to be contaminated with any dust or dirt prior to use.
Note that the swab has a seam that can damage the printhead nozzles; use only the semi-curved foam sides of the swab.

Caution:
Use appropriate safety equipment — nitrile gloves, an apron, and safety glasses with side shields to protect your eyes.

Illustration



[161] Proper Swab Orientation

How to Swab a Single Printhead

Note:
Swab one printhead at a time to reduce ink waste during the purge and also to minimize ink spill on your hand. In order to achieve the most effective swab, it is best to swab immediately after a purge while the ink is still dripping from the printheads. Close the ink valve so that the ink is under slight pressure to help clear debris from around the nozzles.

1. Slide open the maintenance station drawer.
2. Close the ink purge valves of the other colors, but leave open the valve for the color you will swab.
3. Dip a swab in a small container of flush.

Note:
Use 1 swab per printhead. Do not re-dip a swab into the flush. Also note that flush is an aggressive solvent and should not be splashed or sprayed around the printheads.

4. Press the Purge button to initiate a purge.
5. Within 3 seconds of pressing the purge button, close the remaining purge valves. The carriage will lower to its purge height (4mm above the table surface) and the ink will continue to drip from the printheads.
6. While the ink is still dripping, position the swab at the far end of the printhead and slowly draw the swab towards you. Hold the swab at an angle to limit dragging debris from one nozzle to the next. Do not let the seam in the foam touch the nozzles or the nozzle plate.

Note:
It is important to ensure the flush-soaked swab contacts only the nozzle face of the printhead. Also if there is any residual ink left on the plate after swabbing, use a lint-free cloth soaked with flush to remove it (but be careful not to touch the nozzles).

[162] Swab Yellow Printhead

7. Rotate the swab by 180 degrees and repeat the previous step.
8. Discard the swab and repeat Steps 2 to 6 for all the other printheads (if needed).
9. Perform Printhead Maintenance.
10. Once finished, all residual flush and ink in the gaps around the head should be carefully wiped away with a clean swab.
11. Run a Nozzle Check print or an image test print and verify that all nozzles are firing properly.

Note:
If the problem persists, you can swab multiple times. Use a new clean side of the swab each time (this means a maximum of two swipes per swab). It is possible that as many as ten swipes can be required. If purging and swabbing does not recover a blocked nozzle, holding a flush-soaked swab against the blocked nozzle on the printhead for at least ten seconds is an effective way of clearing the blockage.

12. Run another nozzle check, if necessary. When the Nozzle Check print does not show any nozzles out, the printer is ready to produce quality images.

How to Clean the UV Lamp Filter

Introduction

The top of the housings for the left and right UV lamps contain a filter that keeps dust and other airborne particles from entering the lamp housings. If the filter becomes clogged with dust and debris it can cause overheating of the lamps.

When to do

Check the condition of the filters weekly and clean them as needed. If dust accumulates, this can lead to overheated lamps and results in an error message. Clean the filters at least once every three months to avoid overheating. If you receive a lamp overheat error, check for dust or debris. If you get a lamp overheat error and there is no dust on the filter, call for service immediately.

Note:
When you change a UV lamp bulb, replace the filter.

Before you begin

1. Turn off the ink temperature.
2. Turn off UV lamps.

Required tool

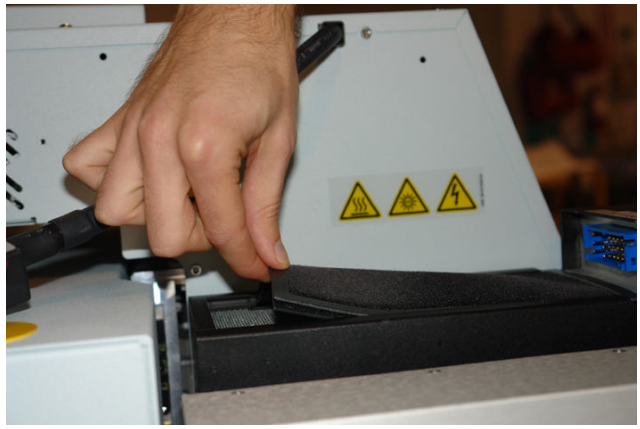
- small hand vacuum cleaner

Note:
Always wear cotton gloves and protective safety glases when handling UV lamps and the reflecting shutters.

Attention:
Failure to clean the filters can lead to overheating of the lamps and result in a shorter lamp life.

Clean the UV Lamp Filter

1. Wait for the lamp fans to stop to ensure the housing has cooled down.
2. Remove the lamp filter by first lifting one corner, then bend it in the center by placing your finger under the filter and lift it away from the power connector and off the lamp housing.



[163] Remove Lamp Filter

3. Move away from the printer and use a vacuum cleaner to remove any debris or dust.
4. Replace the lamp filter by inserting one long edge into the channel on top of the lamp housing, and then squeeze the filter so that the middle bulges and allow the other edge to slide into the other channel.
5. Repeat steps 2 to 4 for the filter in the other UV lamp assembly.

How to Remove Ink

Introduction

How often you need to perform these procedures will vary, depending on printer usage and work habits.

Remove ink from the table and other metal surfaces:

Remove ink from the table whenever necessary. If the ink is not cured, you can wipe it up with a paper towel or lint-free cloth. Once UV ink is cured, the best method for removing it from the table is to use a scraper (it is also possible to achieve good results with a razor blade that is set into a handle/holder - but not on painted surfaces). Be careful not to scratch the aluminum surface of the table when scraping off the cured ink.

Unplug vacuum holes:

The vacuum holes in the table surface may become plugged with ink and thus reduce the efficiency of the vacuum. To clear the holes, use an 1.5mm diameter rigid material (e.g., a paper clip) to ream them out, as required (this is not likely a daily task, but must be performed as needed).

Required tool

- Lint-free absorbent clothes
- Nitrile Gloves and wrap-around safety glasses
- Isopropyl alcohol (95% pure)

Note:

When scraping ink off the table be sure to remove all of the dry ink particles. Use a portable vacuum and then a wet lint-free cloth to ensure no debris is left on the table that could be picked up by a printhead.

How to Remove Uncured Ink from the Table

Caution:

Avoid skin or eye contact with uncured ink as it will cause irritation and sensitization. If a nitrile glove is contaminated with ink, replace it within a few minutes.

1. Wipe up the majority of the ink by blotting with an absorbent cloth.
2. Wet a new absorbent cloth with alcohol and wipe up the remaining ink.
3. Continue to wet and wipe the surface until the cloth does not show any sign of ink color.

How to Remove Cured Ink from the Table

1. Scrape any cured ink from the surface of the table with a scraper (or a razor blade in a holder).

Note:
Do not use a scraper on any of the printer skin surfaces or the Maintenance Station as this will scratch the finish.

2. Use a vacuum cleaner to remove the scraped particles of ink and any other debris on the table surface.
3. Use a lint-free cloth soaked in isopropyl alcohol to ensure that the table surface is clear of any remaining particles.

How to Clean Ink from the Maintenance Tray

During regular daily printhead maintenance, observe the grid on the top of the maintenance station when the drawer is open. If you see any accumulation of ink, clean as follows:

1. Slide the door out from under the carriage to reveal the maintenance station.
2. Wipe up the majority of the ink by blotting with an absorbent cloth.
3. Pour some alcohol on a lint-free cloth and wipe away any ink deposits.
4. On a new cloth, apply some alcohol and remove any residual flush or other debris.

Note:
If you leave the maintenance door open and do not wipe away any deposited ink, it will gradually cure from exposure to light and thus become very difficult to remove.

How to Unplug Vacuum Holes

1. Identify any vacuum holes that are plugged with ink.
2. With an 1.5mm diameter rigid material (e.g., a paper clip), ream out any of the holes that have been plugged.
3. Clear any resulting debris with a vacuum cleaner or a wet lint-free cloth.

Empty the Ink Waste Tray

Introduction

The waste tray is located below the Maintenance Station. It accumulates ink that has dripped from the printheads or ink waste that results from a purge when performing Printhead Maintenance or Swabbing the Printheads. The ink drops onto a sloped drain plate at the base of the Maintenance Station and drains from there into the waste tray.

When to do

Check the waste tray periodically and empty, when needed. When you perform Printhead Maintnance, it is a good practice to visually examine the sloped drain plate at the bottom of the Maintanance Station. If ink starts to pool on the drain plate it is time to empty the waste tray (if you can see ink it means the the waste tray is full and is now backing up into the maintenance station). The capacity of the waste tray is approximately 1.5 liters.

Required tool

- Cloth or paper towel
- Empty semi-transparent plastic container
- Nitrile Gloves

How to Empty the Waste Tray

1. Put a cloth or paper towel in place on the floor to catch any drips while the tray is emptied.

2. Place a suitable empty container that holds at least 1 liter under the waste tray drain.

[164] Waste Tray Valve

3. Turn the valve on the waste tray until it starts to drain the waste material.
4. Shut off the valve when ink no longer drains out (or if the container become full).

Note:
The valve closes clean (drip free) but because it has long pipe use a piece of cloth or paper to wipe it clean as some ink can remain inside and drip out later when the printer is in motion.

5. Dispose of the waste material in a suitable, environmentally-friendly manner.

Fill the Coolant Reservoir

Introduction

The coolant is a thermal fluid used to maintain the temperature of the ink in the printheads and ink reservoirs on the carriage. Temperature control of the ink is required in order to achieve the correct ink viscosity, which affects the jetting velocity of the ink and thus the quality of printed images. The coolant is pumped past a heater that has a thermostat to maintain the coolant temperature. The coolant flows in series through each of the printheads and then returns to the coolant reservoir. Each printhead has an internal sensor that provide temperature feedback. The reservoir block also has a sensor to provide feedback.

Purpose

If the coolant level is low, the ink and printheads cannot be maintained at the proper temperature. Periodically check the level of coolant and add more coolant if it is low.

When to do

Check the coolant bottle, located in the Primary Ink Bay, to see if the level is low. Keep the coolant level up to ensure proper ink temperature.

Note:
Change the coolant fluid at least one time every 12 months with new coolant. Over time and with use, crystal deposits build up in the coolant and can impede the flow and result in pump damage. Consult your service representative for details.

Before you begin

Check the coolant level in the bottle. Always keep the bottle full.

Illustration

[165] Coolant Bottle

Fill the Coolant Reservoir

1. Remove the coolant tube from the coolant bottle lid.
2. Remove the coolant bottle from the ink bay.
3. Remove the coolant bottle lid.
4. Get the coolant fluid container that shipped with the printer (usually located behind the door to the left of the coolant bottle in the Primary Ink Bay).
5. Fill the coolant bottle.
6. Attach the lid to coolant bottle and return it to the Primary ink bay.
7. Store the coolant fluid until it is needed again.

Note:
The Accessory Pack that ships with a new printer contains a 2 litre container of coolant. During an install the coolant system requires 1.8 litres to fill the coolant bottle and lines. We suggest that you order more coolant from your sales representative so that you will have some when you need to top up the system.

Replace the Spit Catcher Foam Pad

Introduction

The Spit Catcher consists of a slotted cover for the Maintenance Station drawer and a foam pad that is held in place under the drawer. The Spit Catcher is necessary for IJC255 white ink and also for all five of the newer Océ IJC256 inks. These inks require a small jetting actions ("spitting") between printing times to keep the printheads in a ready-to-print state. This spitting action uses very little ink but does require that the operator clean the maintenance tray cover more frequently.

Purpose

Over time and with use, the inks can develops particles that can interfere with the internal jetting action of the nozzles in the printheads. If the flow of ink is restricted, print quality can be reduced. Therefore, for the inks that require it, spitting happens on a regular basis. A foam pad located on the underside of the maintenance drawer absorbs this small amount of ink.

Note:
Although the carriage is oriented so that the nozzles spit into the slots in the spit catcher, some ink will find it way onto the flat surface of the maintenance station drawer. Check the surface of the maintenance station when you perform the daily printhead maintenance. If you see any ink wipe it up with a clean cloth or paper towel.

When to do

Spitting only jets a small amount of ink, but eventually it will accumulate in the foam pad to a point of saturation. This is a consumable item so see your local sales representative to order it.

Note:
Be sure to keep the maintenance drawer closed (except when you do the printhead maintenance) so that exposure to light does not cure any accumulated ink.

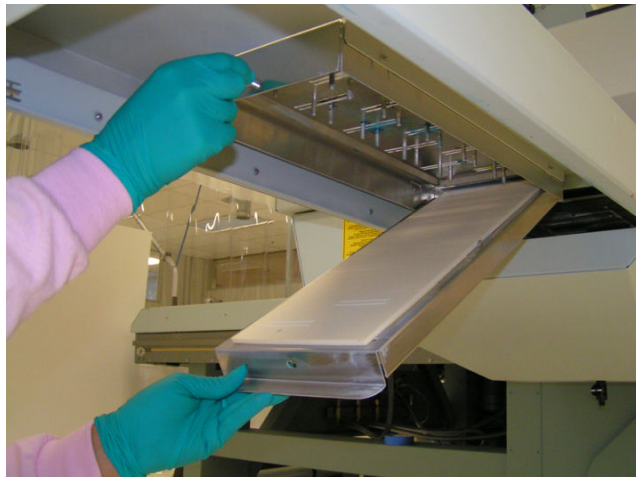
How to Replace the Spit Catcher Foam Pad

1. Slide the maintenance drawer out from under the carriage.
2. Reach under the end of the drawer and pull on the spring-loaded knob while you hold the spit catcher metal base in place.

3. Swing the metal base on its bracket part way down to reveal the pad.

[166] Change Spit Catcher Pad

4. Remove the spit catcher foam pad and replace it with a new one.



[167] Close Spit Catcher

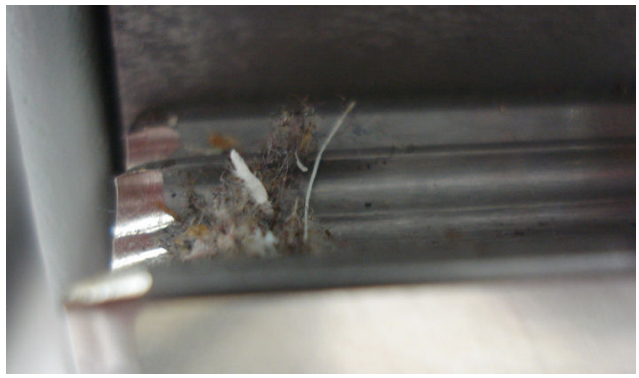
5. Swing the metal base up and lock it with the knob.

Clean Gantry Rails

Introduction

Dust and debris can accumulate on the gantry rails, which run along the length of the table. The bearings that run on the rails are equipped with shields that are designed to keep debris from entering the bearing housing. After a period of time and use, debris can accumulate on the outside of the bearing shields as the gantry travels along the table.

[168] Dust on the runner bearing block shields



[169] Dust on the gantry rail

When to do

If you notice any dirt or ink on the gantry rails, or an accumulation of debris on the grey rail bearing shields, clean them immediately with a Poly-Wipe lint-free cloth.

Note:
Gently wipe dirt or debris from the gantry rails or bearing shields to avoid removing the lubricating grease.

Attention:
In the event of an ink spill on the rail, it should be cleaned immediately, before the bearings have a chance to run over the spill. After the area has been cleaned, wipe the spill area again thoroughly with a water-moistened lint-free cloth to remove any chemical residue before running the gantry over the area again. Slight ink stains that remain on the rail after cleaning are not a major problem.

How to Clean the Rails and Bearing Block

1. Open the Maintenance Station cover to ensure that there is no possible gantry or carriage movement.
2. Use a dry lint-free cloth to remove any visible debris that has accumulated next to the runner bearing shields. It is only necessary to clean the outside bearing shields. When removing debris always wipe away from the shields so you don't push dust into the bearing block.
3. Wipe any debris from the gantry rails. Do this gently so that you do not remove the grease that lubricates the bearings as they move along the rails.
4. Close the Maintenance Station cover.

How to Change Ink Filters

Introduction

Each ink color (or varnish) has a filter that removes any particulate matter as it is pumped from the bag to the printheads. The ink filters are located in an enclosure below the ink bay. There is a Primary and a Secondary Ink Bay the filter that belongs to each ink or varnish is immediately below that bag.

When to do

The ink filter for each color of ink must be replaced at least every 12 months or after 11 bags (22 liters) of ink have been consumed. If an ink filter becomes clogged, it will trap color pigment and affect the color balance of printed images. It can also cause damage to the ink system. It is important to change the filter before this occurs.
If the Nozzle Check print shows one color weaker than normal, this is an indication that the ink filter for the affected color is clogged and the filter must be replaced. Also, If you notice that an ink reservoir takes a long time to fill, check your records for when the filter for that color of ink was last changed. Make sure that the ink tubing from that filter is not kinked.

Note:
New ink filters will contain air that must be released. Air in the ink filter can affect the vacuum and result in dripping ink and deteriorated image quality as a result of nozzle dropout. Bleeding the ink filters is a strategy to avoid persistent nozzle dropout. You must bleed any trapped air out of the ink filters to prevent an overflow of ink into the 0.2 micron ink purge filters associated with the purge valves located on the top of the carriage. If any of the 0.2-micron purge filters shows signs of ink contamination you will need to place a service call to have them replaced. However, the preferred preventative maintenance method is to bleed the ink filters on a regular basis.

Before you begin

IMPORTANT! Open the sliding maintenance station door to disable the ink pumps. Close all of the purge valves on the top of the carriage.

Attention:
A clogged ink filter can result in damage to your printer's ink system. Particulate matter buildup in the ink can cause problems that will require a service call. Be sure to change all ink filters every 12 months to avoid such problems.

How to Change an Ink Filter

1. Open the sliding maintenance station door to disable the ink pumps.
2. Close all of the ink purge valves (they are located on the top of the carriage).
3. Disengage the ink bag for the color of filter you will replace. To do this press the release tab on the left side of the quick-release ink bag coupler and then pull it out to disconnect the ink bag.

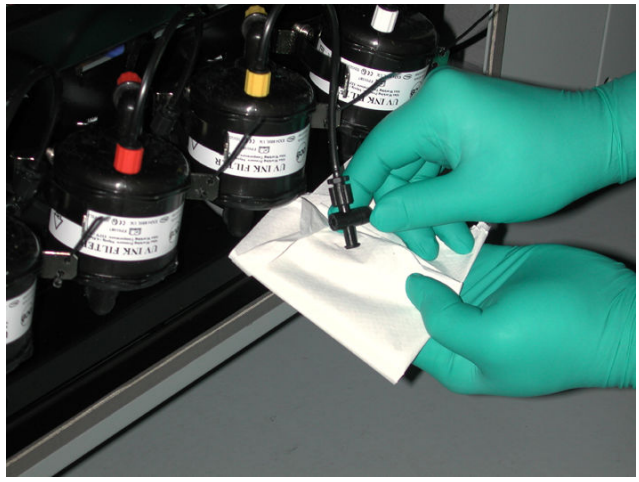
[170] Remove Ink bag coupler

4. Open the ink filter enclosure cover by pushing on the top center to release and then allow the cover to fold down to provide access to the filters.

[171] Open Ink Filter Enclosure Cover

5. Locate the bleed tube valve on the top of the ink filter you are going to change (the cap that holds it in place indicates the color of the ink line into that filter).

6. Wrap a lint-free cloth around the end of the bleed tube of the ink filter to catch any ink that may spray out when you release the pressure in the next step.



[172] Ink bleed tube valve

7. Turn the bleed tube valve shutoff lever so that it is parallel to the bleed tube to open the valve and release any pressure, then flip the shutoff lever back to the perpendicular closed position after about 30 seconds.

Note:
The ink system is under pressure and so it is possible that some ink may spray out at first. Keep the cloth wrapped around the end of the bleed tube so that any ink spay is contained.

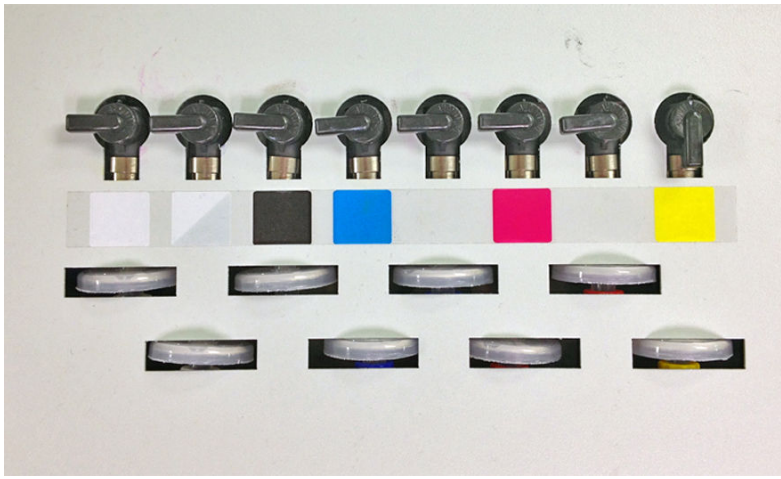
8. Pull the target ink filter out of its metal retainer clip.
9. Unscrew the bleed tube cap from the old filter and thread it into the top connector of the new filter. Place the cap that came with the new filter on the old filter to prevent ink from leaking out of the old filter.
10. Repeat the previous step for the top and bottom connections.

Note:
Wipe off any spilled ink.

11. Insert the new filter into the empty retainer clip and make sure the flow arrow on the filter points downward. Be careful not to pinch the ink lines.
12. Proceed to How to Bleed an Ink Filter.

How to Bleed an Ink Filter

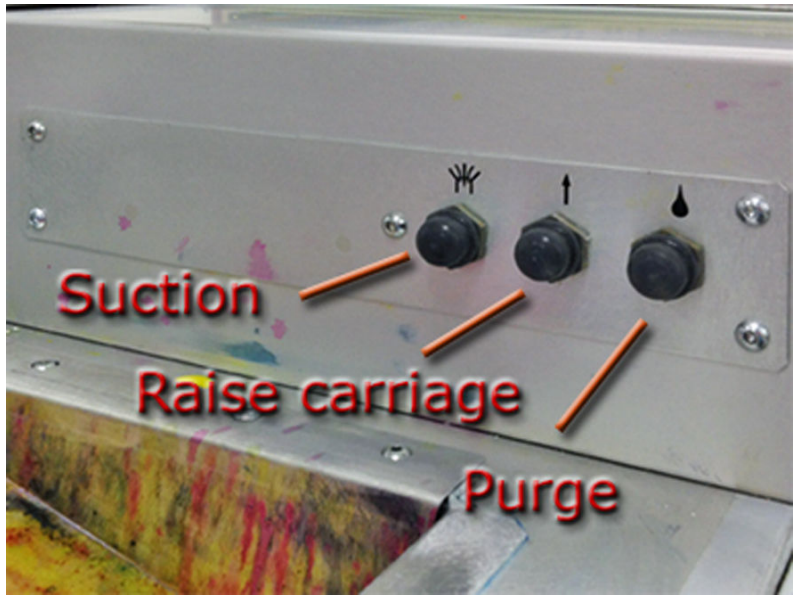
1. Open the ink purge valve of the target color to bleed and make sure the valves of the other colors (or varnish) are closed.



[173] Yellow Purge Valve Open

2. Click on the ink status icon located in the top right corner of the Print Job Control screen of the printer software to monitor the ink status.

3. Press the Purge button to initiate an ink purge. Repeat this step until the ink status window shows an Ink Low condition for the target color.



[174] Maintenance Station Buttons

4. Press the Raise Carriage button and then use the maintenance suction nozzle to remove any excess ink from the printhead that you purged.
5. Close the maintenance station door.
6. In the ink bay, reconnect the ink bag coupler of the target ink bag to re-initiate ink fill.
7. Place a lint-free cloth below the bleed tube of the target ink filter to catch any ink.
8. Turn the valve shutoff lever so that it is parallel to the bleed tube to open the valve.
9. Keep the cloth close as you watch the open bleed tube. As soon as you see ink appear in the open end of the bleed tube, flip the shutoff lever back to the perpendicular closed position (this may take a few minutes, depending on the amount of air in the filter since the ink pump is only active for a brief period every 5 seconds). Ignore the residual ink that is already in the bleed tube.

Final Steps

1. Check the new filter to make sure there are no ink leaks.
2. Open any purge valves on the carriage that are still closed.
3. Use a marker or create a label to record the install date.
4. Replace the ink filter enclosure cover.
5. Perform routine printhead maintenance before printing.
6. Replace the ink filters every 12 months or after consumption of 11 bags (22 liters) of ink.

How to Change a UV Lamp Bulb

Introduction

Your Océ Arizona printer uses two UV lamps, one on each side of the carriage, to cure the UV ink during printing. The bulbs in these UV lamps have a limited lifetime and must be replaced by the operator if they fail or when they can no longer cure the ink at maximum available power.

When to do

Although the functional life of the UV lamps can be as high as 500 hours, there are factors that can reduce the expected lifetime. Operational practices, such as turning the lamps off and on frequently, using them at high intensity all of the time, or touching the bulbs with your fingers, can shorten their life. Océ recommends that both UV Lamp bulbs be replaced at the same time to ensure that the curing effect is balanced when printing in both directions. In the case of a premature failure or accidental breakage of one lamp, the operator can decide to replace only one lamp but should confirm image consistency after the replacement. Uneven curing can cause gloss banding in the printed image. We also recommend that you change the lamp filters when the bulb is changed.

Note:
The Flatbed Settings icon on the printer interface allows the operator to control the power output of each UV lamp independently. To extend lamp life, use the lowest setting that provides adequate curing for a particular media. However, avoid handling media with insufficient curing as partially cured UV ink on your skin can cause irritation and sensitization.

Before you begin

1. Turn off the ink temperature.
2. Turn off the UV lamps.
3. Slide the maintenance station drawer out from under the carriage.
4. Press switch 2 (middle) to raise the carriage to its maximum height (this will provide access to clean the quartz window later in this procedure).
5. When the ink temperature is below 40°C (104°F) and the UV Lamps are cool, click on the Shutdown button in the Tools and Utilities module.
6. Turn off the printer power (see How to Power the Printer On and Off for proper procedure).
7. Apply a lockout to the AC power switch.

Caution:
The UV lamps and the carriage guard may be hot if the printer has been active. Avoid touching the guard and the lamp assembly until it is cool.

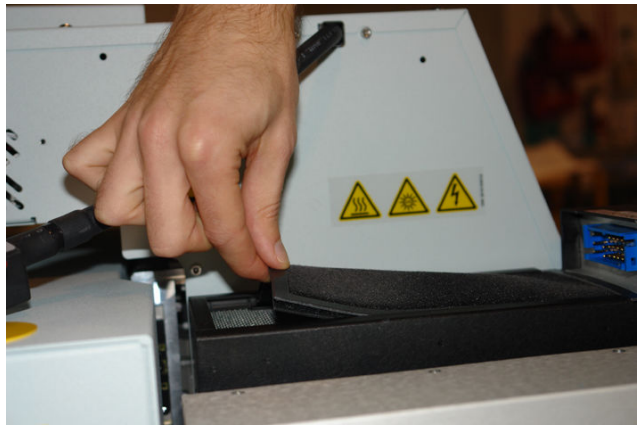
Caution:
These UV lamp bulbs contain mercury, and if they are broken the vapor is toxic if inhaled. The lamp bulbs must be disposed of according to local environmental regulations.

How to Remove the Lamp Housing

1. Remove the carriage guard by lifting it straight up and then away from the carriage.
2. Disconnect the UV lamp housing power cable connector by pressing in the two blue tabs on either side and pull it out.

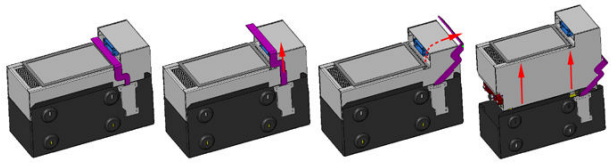
[175] Disconnect power cable

3. Remove the foam filter from the top of the housing by lifting the exposed edge as shown below. It is flexible and will bend as you remove it.



[176] Remove Lamp Filter

4. Swing the UV lamp housing interlock safety arm out of the way:



[177] Interlock Safety Arm

- first lift it straight up to the height of the blue connector;
- then angle it away from the connector as you raise it higher; and
- finally swing the arm back over the connector and past the raised part of the lamp housing.

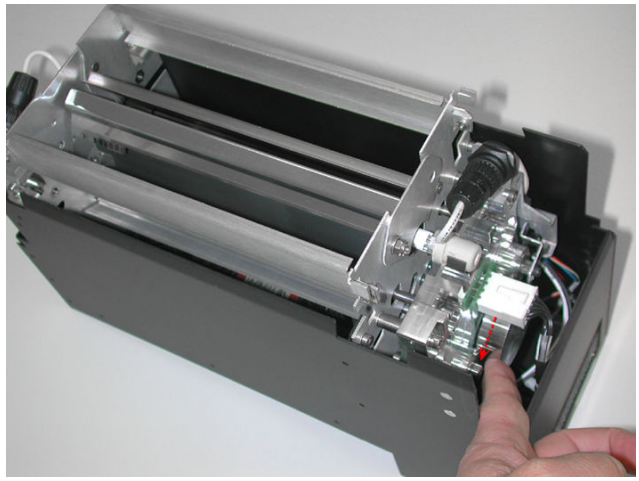
Note:
The UV lamp housing cannot be removed from the carriage until the bracket is swung out of the way.

5. Lift the UV lamp housing straight up and out of its carriage bucket.

How to Remove the UV Lamp Bulb

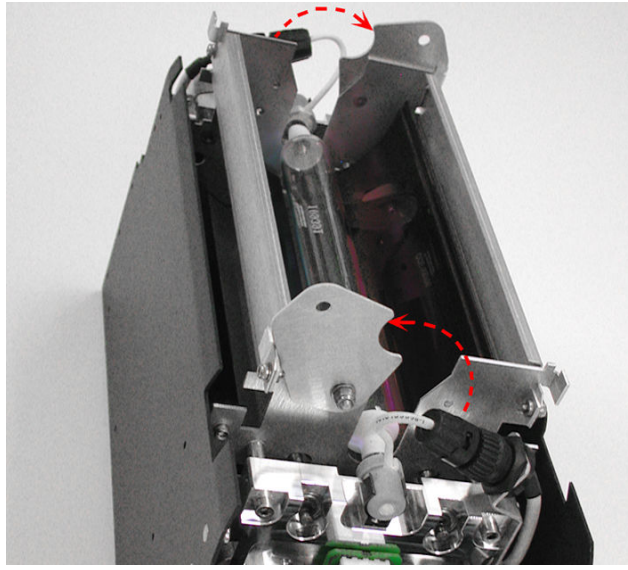
Attention:
Use cotton gloves when handling the UV lamp and Shutter assemblies; oil from fingers can harm these components and shorten lamp life.

1. Put on protective eye wear and cotton gloves.
2. Turn the housing upside down on a clean work space away from the printer.
3. Rotate the shutter motor dampener until the UV shutters are open.



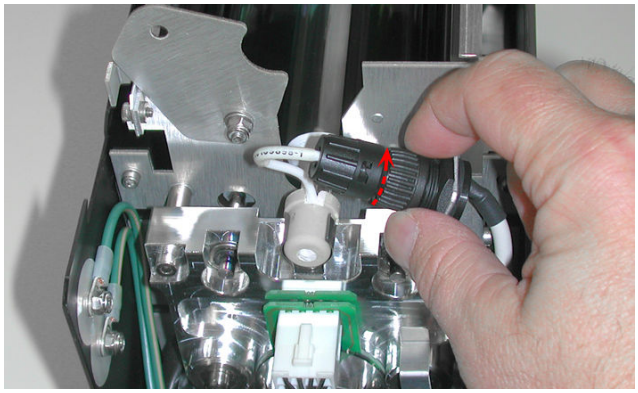
[178] Rotate shutter motor dampener

4. Open the two UV light shields located at both ends of the UV lamp by rotating them fully in the counter-clockwise direction.



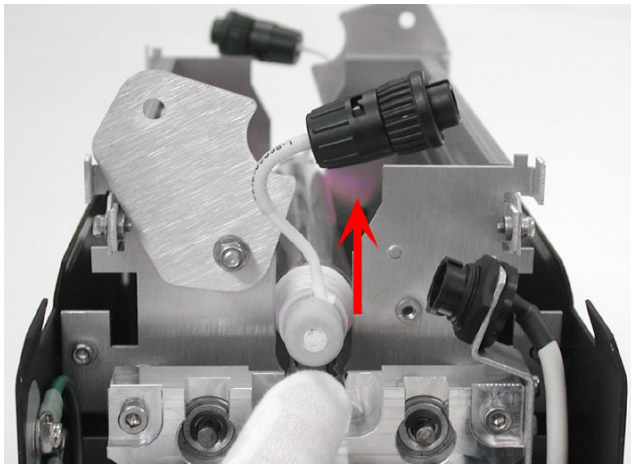
[179] Rotate light shields

5. Disconnect both UV lamp cables by first loosening the screw lock and then pulling the lock away from the connectors.



[180] Remove connectors

6. Ease the bulb out of the retainer clips, one end at a time and then remove it from the housing.



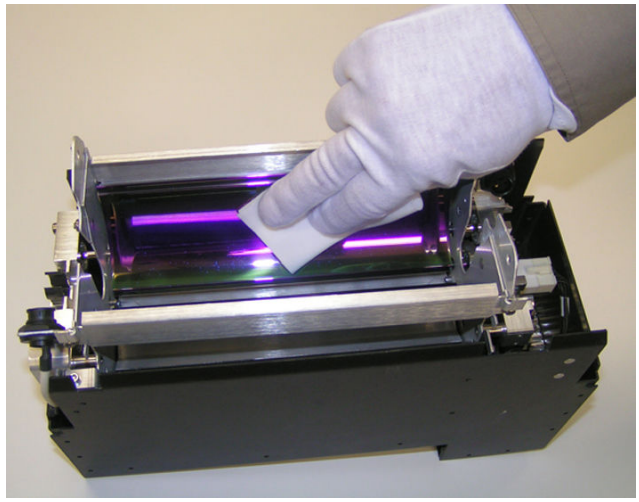
[181] Remove UV lamp bulb

7. Place the used bulb in a container for recycling.
8. Dispose of the old UV lamp bulbs according to local environmental regulations.

How to Replace the Lamp Bulb

Attention:
Wear cotton gloves. Avoid bare skin contact with the UV lamp bulbs. When heated, compounds from the skin can form permanent etching on the surface of the UV bulb. A contaminated bulb may fail prematurely.

1. Before you insert the new UV bulb and replace the lamp housing, open the UV shutters and use a lint-free cloth soaked in isopropyl alcohol to clean the reflector surfaces.



[182] Clean lamp housing reflectors

Note:
If the reflectors are not cleaned at least with every bulb change, the curing ability of the lamps will decrease (See Customer Application bulletin 38 for more details).

2. Use the lint-free cloth soaked in isopropyl alcohol to clean both sides of the quartz window in the bottom of the UV lamp housing bucket.
3. Ensure that the UV shutters are still open (rotate the motor dampener if they are not).
4. Prior to installing the UV lamp bulb, use the cleaning wipes provided in the replacement kit to clean it.
5. Pick up the new bulb by its ceramic ends.
6. Insert the bulb into the retainer clips one at a time, ensuring that the bulb is centered and seated firmly into the clips at both ends.
7. Reconnect the bulb power connectors and tighten the screw locks.
8. Rotate the two UV light shields clockwise back to the closed position so that they are parallel to the end plate.

How to Replace the Lamp Housing

1. Wipe both the top and bottom of the quartz window at the base of the UV lamp-housing carriage bucket with an alcohol wipe. Also check the bottom of the quartz window for any buildup of ink, which can be caused by misting if the carriage height is incorrect. If you see any ink, it can be removed by scraping with a razor blade or similar tool held at a 45-degree angle.
2. Place the lamp housing back into the carriage bucket.
3. Replace the old filter that was removed from the top of the housing with a new one.
4. Rotate the interlock safety bracket back into position to lock the lamp housing in place.
5. Reconnect the UV power cable connector to the top of the UV lamp housing.
6. Repeat the above two sets of procedures to change the bulb in the other lamp housing.

Note:
We recommend that both UV Lamp bulbs be replaced at the same time to ensure that the curing effect is balanced when printing in both directions.

7. Replace the carriage guard onto the carriage base.
8. Slide the maintenance station drawer gently to close it.

Note:
A hard bump can break the meniscus vacuum in the ink lines and thus allow air into the lines, which blocks the printhead nozzle until a purge is performed.

9. Unlock the AC power switch and power on the printer.
10. Print a test image. If you see any gloss banding and if you only changed one UV bulb, you may need to change the other bulb as well.
11. Dispose of the old UV lamp bulbs according to local environmental regulations.

How to Maintain White Ink

Introduction

Printers with the White Ink Option require care and maintenance to ensure that the white printheads function properly. White ink is re-circulated in the system to limit any settling of the ink. For this to take place, **the printer must be left powered On at all times**. If the printer is powered down for maintenance or service, once it is powered on again and the ink reservoirs are full, agitate the white ink bag and perform several purges. A new white ink bag must be gently agitated before it is connected and then at least once a week thereafter. Daily maintenance is essential with the white ink option as it will purge out a small amount of white ink in order to keep the printheads clear and operating reliably.
Printers with the white ink option will spit into the "spit catcher" (located over the maintenance tray) every few minutes in order to keep the white nozzles clear.

When to do

Daily

- Perform printhead maintenance every day for all colors, including white.

Weekly

- Agitate the white ink bag as described on the ink bag label (even when white is not actively used)
- Swab all printheads

As Needed

- Purge the white printheads as required (i.e., if there are too many nozzle dropouts). This may be necessary multiple times per day.

Before you begin

Make sure you wear eye protection and nitrile gloves when handling or cleaning ink. Also, when working around the maintenance station take measure to protect your clothing and any exposed areas of skin.

Attention:
Failure to properly maintain the white ink as described here can result in damage to the printheads.

How to Agitate the White Ink Bag

If you do not agitate the white ink bag at least once a month, you will see a message on the printer display that reminds you to agitate it. You will not be able to use the printer until this is done. This ensures that the white ink pigment does not settle in the bottom of the bag and thus reduces the chance of sludge being released into the ink reservoir.

1. Open the clear plastic door of the Ink Bay.
2. Press the quick-release coupler button at the bottom corner of the white ink bag to release it.
3. Unhook the bag from the top of the ink station.
4. Agitate the white ink bag according to the illustration on the bag.

Note:
You must agitate the white ink bag for at least 5 seconds or the message will remain on the screen.

5. Replace the bag in the Ink Bay.

Roll Media Option Maintenance

RMO Maintenance Guidelines

Introduction

The Océ Arizona 400 Series GT operator is responsible for the regular maintenance of the printer and, if it is installed, the roll media option. When the RMO unit is kept clean and free of blemishes and defects, you will be ensured of accurate media transport and optimal print quality. This section provides information about what is required for proper RMO maintenance and cleaning.

Note:
Any time there is any foreign matter or debris on the platen or the capstan it must be removed immediately. Any spilled UV ink must be removed immediately, before it can cure from exposure to light.

RMO Maintenance

The following table provides our recommended maintenance activities. This is a minimum requirement and frequency will depend on environmental conditions and operator work habits. How to clean the capstan is explained in detail in the next section.

Maintenance Action	Contaminant
Clean the platen	Ink
	Glue (release liner)
	Silicon (release liner)
Clean the capstan	Paper dust
	Coffee, tea, lemonade, milk, etc.
	Ink (cured, uncured)
	Glue (release liner)
	Silicon (release liner - e.g. Avery control tag 180)
Clean the media loading bay	Dust
	Ink

How to Clean the Rubber Capstan

Introduction

The capstan is a rubber-coated roller that helps to track and guide the media position. It has an encoder at one end and a brake at the other. The capstan must be kept clean and its rubber surface free of blemishes or defects to ensure accurate media transport and optimal print quality.

When to do

Any time there is any foreign matter or debris on the capstan it must be removed immediately.

Required tool

- Swiffer Brush (or equivalent dust remover)
- Lint-free absorbent clothes
- Rubber gloves
- Mild detergent
- Lint-free cloth
- Isopropyl alcohol (95% pure)

Note:
Always wear safety glasses with side shields and nitrile gloves when working with ink or liquid solvents. If a significant amount of ink has spilled, consider donning an apron or smock.

Attention:
The only way to remove cured ink is if the area can be scraped without causing damage (therefore do not allow ink to dry on the platen or the capstan! Partly cured ink can be removed with alcohol. Make sure that any spilled ink is removed immediately before it has a chance to cure due to exposure to light. The longer it is left exposed, the more difficult (or impossible) it will be to remove the ink.

Removing Solid Debris

1. Dust the surface of the capstan using a Swiffer or other lint-free brush or cloth. Surface may be brushed in any direction.

[183] Remove lint, dust, paper particles and debris

Removing Stains (coffee, tea, soda pop, etc.)

Supplies Needed: Rubber gloves, soap, hot water, and lint-free cloth.

1. Put on nitrile gloves
2. Mix a cleaning solution that is 50:1 hot water to soap.

Note:
Use a mild detergent such as Ivory - avoid soaps that have dies, moisturizing oils, or perfumes as they may damage the capstan. Read the label! Our R&D Lab has tested only Ivory Detergent. If you are uncertain about a detergent try it out in a 50:1 solution on a small area at the end of the capstan.

3. Wet the cloth in the cleaning solution and wring out excess liquid. Scrub the surface of the capstan using the cleaning cloth.
4. Allow adequate time for the capstan to dry.

Note:
If scrubbing action leaves debris on the surface, wait for the surface to dry completely, then follow the procedure listed above for “Removing Solid Debris”.

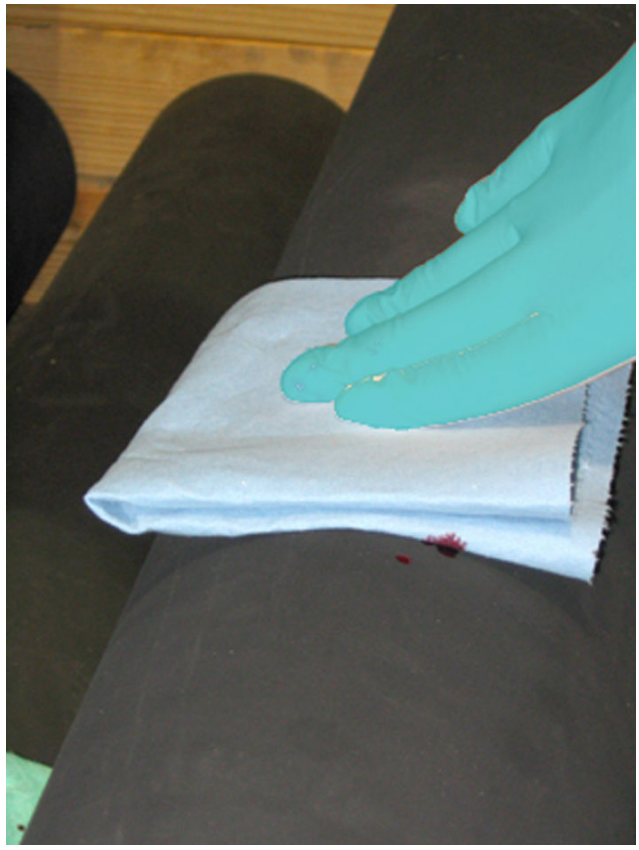
Removing Uncured Ink

Supplies needed: Nitrile gloves, safety goggles with side shields, several absorbent clothes, and Isopropyl Alcohol (95% pure).

1. Put on gloves and goggles.

[184] Ink Spill on Capstan

2. Wipe up the majority of the ink by blotting with the absorbent cloth.

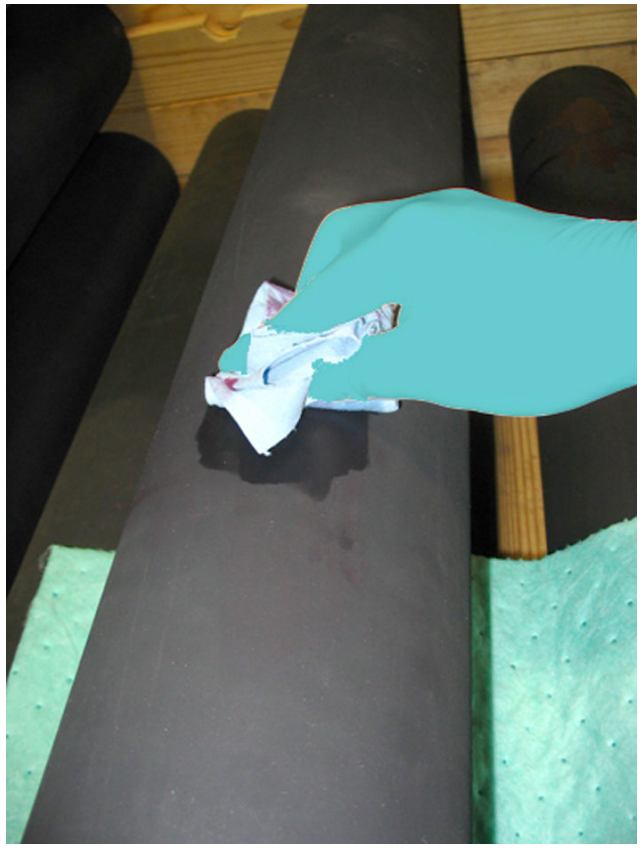


[185] Wipe up ink with cloth

3. Wet a new absorbent cloth with alcohol and wipe up the remaining ink.

[186] Wet fresh cloth with alcohol

Note:
It may be difficult to tell whether or not all the ink has left the surface. Continue to wet and wipe the capstan surface until the cloth does not show any sign of ink color.



[187] Wipe up remainder of ink

4. Allow adequate time for capstan to dry.

Note:
If the scrubbing action leaves fibers from the cloth on the surface, wait for the surface to dry completely, then follow the procedure listed above for Removing Solid Debris.

Result

When the capstan is kept clean and its rubber surface free of blemishes or defects you will be ensured of accurate media transport and optimal print quality. If its surface is badly damaged the capstan will need to be replaced.

Appendix A
Application Information

Application Resources on the Web Site

Introduction

There are many resources available on the Océ Arizona Customer Support web site: Application Hints and Tips, Media Recommendations, Media Models, MSDS information, Customer Application Bulletins, and more. To access this information, navigate to: http://dgs.oce.com/ then select Printer Support - Customer Access.

There is a Media Notes document that contains useful information about printing on various media.
There is also a link to the Océ Media Guide web site that contains useful information about all Océ-recommended media and consumables.

The Customer Application Bulletins posted on the web site deal with many aspects of handling and managing media and printing with your Arizona printer. At the time of this publication, the following bulletins were available to view or download:
Application Bulletin 1 - New Media Profiles Available
Application Bulletin 2 - How to Select A Media Model and ICC Profile
Application Bulletin 3 - How to Achieve Optimal UV Lamp Power
Application Bulletin 4 - ONYX ProductionHouse Anti-Virus Software Issues
Application Bulletin 5 - How to Handle and Prepare Media for Printing
Application Bulletin 6 - How to Improve UV Ink Adhesion
Application Bulletin 7 - About Media Models and Application Notes
Application Bulletin 8 - How to Hold Media Flat on the Printer Table
Application Bulletin 9 - How to Handle Media after Printing
Application Bulletin 10 - How to Deal with Static
Application Bulletin 11 - Printing Backlit Materials
Application Bulletin 12 - Printing Multiple Pieces of Media Simultaneously
Application Bulletin 13 - Printhead Maintenance - Revised Version
Application Bulletin 14 - New Ruler Guides Available in Special Prints
Application Bulletin 15 - How to Print Lenticular Images
Application Bulletin 16 - Media Model and ICC Profile Creation Guidelines
Application Bulletin 17 - Managing Arizona 250GT Ink Inventory
Application Bulletin 18 - How to Bleed Trapped Air from an Ink Filter
Application Bulletin 19 - Reduce Static with an Océ Static Suppression Kit
Application Bulletin 20 - How to Print on Backlit Materials Using Quality-Density Mode

Application Bulletin 21 - More Media Models Added to Support Web Page
Application Bulletin 23 - Double-Sided Printing on the Océ Arizona Roll Media Option
Application Bulletin 24 - Printer Shutdown Procedures
Application Bulletin 25 - Use a White Ink Underlay to Improve Image Quality
Application Bulletin 26 - Variable Reduced Density in White Spot Data for Raster Images
Application Bulletin 27 - Ink Filters Must be Changed Every 12 Months
Application Bulletin 28 - Selecting Appropriate Océ Ink for Your Applications: Océ IJC255 or Océ IJC256
Application Bulletin 29 - Recommended Media for Use With the New Océ IJC256 Inks
Application Bulletin 30 - How to Create Reduced Density White Ink Output
Application Bulletin 31 - How to Print White Ink Gradients
Application Bulletin 32 - How to Work Safely in a UV Ink Environment
Application Bulletin 33 - Improve White Ink Reliability When Printing Small Amounts of White
Application Bulletin 34 - Océ Arizona 200/250/300/350 GT & 350 XT Software Revision Highlights
Application Bulletin 35 - Océ Arizona Printer Care and Use Poster
Application Bulletin 36 - How to Avoid Media Wrinkling on the RMO
Application Bulletin 37 - Alternative Media Load Procedure for the Océ Arizona RMO
Application Bulletin 38 - Clean the UV Lamp Reflectors When A Bulb is Replaced
Application Bulletin 39 RMO Motion Error/Bouncing Dancer Fix
Application Bulletin 40 ONYX X10 Media Model and ICC Profile Creation Guidelines
Application Bulletin 41 Optimizing XT Center Zone Vacuum
Application Bulletin 42 Dibond Media Models Added to the Customer Support Website
Application Bulletin 43 Roll Media Option Tips and Troubleshooting

Customer Support

The information found on the Océ Customer support web site is based on our experience with the Océ Arizona printers. It is offers suggestions or solutions for dealing with various situations. Since this information is subject to change and more new material is added as it becomes available, please check the web site occasionally for the most current information.

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